

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549**

**SCHEDULE 14A
(RULE 14a-101)**

INFORMATION REQUIRED IN PROXY STATEMENT

SCHEDULE 14A INFORMATION

**Proxy Statement Pursuant to Section 14(a) of the Securities
Exchange Act of 1934 (Amendment No.)**

Filed by the Registrant
Filed by a Party other than the Registrant

Check the appropriate box:

- Preliminary Proxy Statement
 Confidential, for Use of the Commission Only (as permitted by Rule 14a-6(e)(2))
 Definitive Proxy Statement
 Definitive Additional Materials
 Soliciting Material Pursuant to §240.14a-12

IDERA PHARMACEUTICALS, INC.

(Name of Registrant as Specified in its Charter)

(Name of Person(s) Filing Proxy Statement, if Other Than the Registrant)

Payment of Filing Fee (Check the appropriate box):

- No fee required.
 Fee computed on table below per Exchange Act Rules 14a-6(i)(1) and 0-11.

1) Title of each class of securities to which transaction applies:

2) Aggregate number of securities to which transaction applies:

3) Per unit price or other underlying value of transaction computed pursuant to Exchange Act Rule 0-11 (set forth the amount on which the filing fee is calculated and state how it was determined):

4) Proposed maximum aggregate value of transaction:

5) Total fee paid:

Fee paid previously with preliminary materials.

Check box if any part of the fee is offset as provided by Exchange Act Rule 0-11(a)(2) and identify the filing for which the offsetting fee was paid previously. Identify the previous filing by registration statement number, or the Form or Schedule and the date of its filing.

1) Amount previously paid:

2) Form, Schedule or Registration Statement No.:

3) Filing Party:

4) Date Filed:

IDERA PHARMACEUTICALS, INC.

167 Sidney Street
Cambridge, Massachusetts 02139

NOTICE OF 2011 ANNUAL MEETING OF STOCKHOLDERS

Date and Time:

June 14, 2011 at 10:00 a.m., local time

Place:

Le Méridien Cambridge-MIT
20 Sidney Street
Cambridge, Massachusetts 02139

Items of Business:

At the annual meeting, we will ask our stockholders to:

- Elect three Class I Directors to our board of directors for terms to expire at the 2014 annual meeting of stockholders;
- Approve an amendment to our 2008 Stock Incentive Plan to (i) increase the number of shares authorized for issuance thereunder from 3,700,000 to 6,000,000 shares and (ii) adjust the number of shares that any award that is a full-value award will count for against the shares authorized for issuance under the plan from 1.57 shares to 1.4 shares for each share of Common Stock subject to such full-value award;
- Approve an amendment to our 1995 Employee Stock Purchase Plan to increase the number of shares authorized for issuance thereunder from 250,000 to 500,000 shares;
- Approve, by non-binding vote, executive compensation;
- Approve, by non-binding vote, the frequency (one year, two years or three years) of future executive compensation advisory votes;
- Ratify the selection of Ernst & Young LLP as our independent registered public accounting firm for the fiscal year ending December 31, 2011; and
- Transact any other business as may properly come before the annual meeting or any postponement or adjournment of the annual meeting.

The board of directors has no knowledge of any other business to be transacted at the annual meeting.

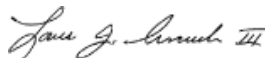
Record Date:

You may vote at this annual meeting if you were a stockholder of record at the close of business on April 19, 2011.

Proxy Voting:

It is important that your shares be represented and voted at the annual meeting. Whether or not you plan to attend the annual meeting, please mark, sign, date and promptly mail your proxy card in the enclosed postage-paid envelope or follow the instructions on the proxy card to vote by telephone or internet. You may revoke your proxy at any time before its exercise at the annual meeting.

By order of the board of directors,



Louis J. Arcudi, III
Secretary

Cambridge, Massachusetts
April 27, 2011

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IDERA PHARMACEUTICALS, INC.

167 Sidney Street
Cambridge, Massachusetts 02139

PROXY STATEMENT

For our Annual Meeting of Stockholders to be held on June 14, 2011

Idera Pharmaceuticals, Inc., a Delaware corporation, which is referred to as “we” or “us” in this proxy statement, is sending you this proxy statement and the enclosed proxy card because our board of directors is soliciting your proxy to vote at our 2011 annual meeting of stockholders. The annual meeting will be held on Tuesday, June 14, 2011, at 10:00 a.m., local time, at Le Méridien Cambridge-MIT, 20 Sidney Street, Cambridge, Massachusetts 02139. If the annual meeting is adjourned for any reason, then proxies submitted may be used at any adjournments of the annual meeting.

This proxy statement summarizes information about the proposals to be considered at the annual meeting and other information you may find useful in determining how to vote. The proxy card is the means by which you actually authorize another person to vote your shares in accordance with your instructions.

We are mailing this proxy statement and the enclosed proxy card to stockholders on or about May 12, 2011.

In this mailing, we are also including copies of our annual report to stockholders for the year ended December 31, 2010. Our annual report on Form 10-K for the year ended December 31, 2010, as filed with the Securities and Exchange Commission, or the SEC, including our audited financial statements, is included in our annual report to stockholders and is also available free of charge on our website, www.iderapharma.com, and where it can be accessed by clicking “Investors” and then “SEC Filings,” or through the SEC’s electronic data system at www.sec.gov. **To request a printed copy of our Notice of Annual Meeting, Proxy Statement and Annual Report on Form 10-K, which we will provide to you free of charge, or to obtain directions to be able to attend the annual meeting and vote in person, write to Investor Relations, Idera Pharmaceuticals, Inc., 167 Sidney Street, Cambridge, Massachusetts, 02139, call our toll-free number 1 (877) 888-6550, or email Investor Relations at ir@iderapharma.com.**

Important Notice Regarding the Availability of Proxy Materials for the Annual Meeting of Stockholders to Be Held on June 14, 2011:

The Notice of Annual Meeting, Proxy Statement and 2010 Annual Report are available at <http://ir.iderapharma.com/phoenix.zhtml?c=208904&p=proxy>.

INFORMATION ABOUT THE ANNUAL MEETING

Who may vote?

Holders of record of our common stock at the close of business on April 19, 2011, the record date for the annual meeting, are entitled to one vote per share on each matter properly brought before the annual meeting. As of the close of business on April 19, 2011, we had 27,615,933 shares of our common stock outstanding.

How do I vote my shares if I am a stockholder of record?

If you are a stockholder of record (meaning that you hold shares in your name in the records of our transfer agent, BNY Mellon Shareowner Services, and that your shares are not held in “street name” by a bank or brokerage firm), you may vote your shares in any one of the following ways:

- *You may vote by mail.* To vote by mail, you need to complete, date and sign the proxy card that accompanies this proxy statement and promptly mail it in the enclosed postage-prepaid envelope. You do not need to put a stamp on the enclosed envelope if you mail it from within the United States.

- *You may vote by telephone.* To vote by telephone through services provided by BNY Mellon Shareowner Services, call 1-866-540-5760, and follow the instructions provided on each proxy card. If you vote by telephone, you do not need to complete and mail your proxy card.
- *You may vote by internet.* To vote over the internet through services provided by BNY Mellon Shareowner Services, please go to the following website: <http://www.proxyvoting.com/idra> and follow the instructions at that site for submitting your proxy card. If you vote on the internet, you do not need to complete and mail your proxy card.
- *You may vote in person.* If you attend the annual meeting, you may vote by delivering your completed proxy card in person or you may vote by completing a ballot at the annual meeting. Ballots will be available at the annual meeting.

Your proxy will only be valid if you complete and return the proxy card, vote by telephone or vote by internet at or before the annual meeting. The persons named in the proxy card will vote the shares you own in accordance with your instructions on your proxy card, in your vote by telephone or in your vote by internet. If you return the proxy card, vote by telephone or vote by internet, but do not give any instructions on a particular matter described in this proxy statement, the persons named in the proxy card will vote the shares you own in accordance with the recommendations of our board of directors.

The proxy card enclosed with this proxy statement states the number of shares you are entitled to vote if you are a stockholder of record.

How do I vote my shares if I hold them in “street name?”

If the shares you own are held in “street name” by a bank or brokerage firm, your bank or brokerage firm, as the record holder of your shares, is required to vote your shares according to your instructions. In order to vote your shares, you will need to follow the directions your bank or brokerage firm provides you. Many banks and brokerage firms solicit voting instructions over the internet or by telephone.

If you do not give instructions to your bank or brokerage firm, it will still be able to vote your shares with respect to the ratification of Ernst & Young LLP, our independent registered public accounting firm (Proposal Six), which is considered a discretionary item. However, the election of directors (Proposal One), the approval of the amendment to our 2008 Stock Incentive Plan (Proposal Two), the approval of the amendment to our 1995 Employee Stock Purchase Plan (Proposal Three), the approval of the advisory vote on executive compensation (Proposal Four) and the approval of one of the three frequency options under the advisory vote on the frequency of future executive compensation advisory votes (Proposal Five) are not considered “discretionary” items. Therefore, if you do not give instructions with respect to these proposals, your shares will be treated as “broker non-votes.” “Broker non-votes” are shares with respect to which a bank or brokerage firm does not receive voting instructions from the beneficial holder and does not have or exercise discretionary authority in voting on a proposal.

Regardless of whether your shares are held in street name, you are welcome to attend the annual meeting. If your shares are held in street name, you may not vote your shares in person at the annual meeting unless you obtain a proxy, executed in your favor, from the holder of record (i.e., your brokerage firm or bank). If you hold your shares in street name and wish to vote in person, please contact your brokerage firm or bank before the annual meeting to obtain the necessary proxy from the holder of record.

How may I change or revoke my vote?

If you are a stockholder of record, even if you complete and return a proxy card or vote by telephone or internet, you may change or revoke your vote at any time before your proxy is exercised by taking one of the following actions:

- send written notice to our Secretary, Louis J. Arcudi, III, at our address above, stating that you wish to revoke your vote;
- deliver to us another signed proxy card with a later date or vote by telephone or by internet; or
- attend the annual meeting, notify our Secretary that you are present and then vote by ballot.

If you own shares in street name, your bank or brokerage firm should provide you with instructions for changing or revoking your vote.

What constitutes a quorum?

In order for business to be conducted at the annual meeting, a quorum must be present. A quorum consists of the holders of at least 13,807,967 shares, representing a majority of the shares of common stock issued, outstanding and entitled to vote at the annual meeting.

Shares of common stock present in person or represented by proxy (including broker non-votes and shares that are abstained or withheld or with respect to which no voting instructions are provided for one or more of the matters to be voted upon) will be counted for the purpose of determining whether a quorum exists.

If a quorum is not present, the annual meeting will be adjourned until a quorum is obtained.

What vote is required to approve each matter?

Election of Directors: Directors will be elected by a plurality of the votes cast by our stockholders entitled to vote on the election. In other words, the three nominees for director receiving the highest number of votes FOR election will be elected as directors, regardless of whether any of those numbers represents a majority of the votes cast.

You may vote FOR all of the nominees, WITHHOLD your vote from all of the nominees or WITHHOLD your vote from any one or more of the nominees.

Other Matters: The affirmative vote of the holders of a majority of the shares of common stock present or represented and voting will be required for: approval of the amendment to our 2008 Stock Incentive Plan (Proposal Two); approval of the amendment to our 1995 Employee Stock Purchase Plan (Proposal Three); approval of the advisory vote on executive compensation (Proposal Four); approval of one of the three frequency options under the advisory vote on the frequency of future executive compensation advisory votes (Proposal Five); and approval of the ratification of the selection of the independent registered public accounting firm (Proposal Six).

Shares that are abstained and broker non-votes will not be counted as votes in favor of, these proposals and will also not be counted as votes cast. Accordingly, abstentions and broker non-votes will have no effect on the outcome of any of these proposals. With respect to Proposal Five, if none of the three frequency options receives the vote of the holders of a majority of the votes cast, we will consider the frequency option (one year, two years or three years) receiving the highest number of votes cast by stockholders to be the frequency that has been recommended by stockholders. However, as described in more detail in Proposal Five, because this proposal is non-binding, the board of directors may decide that it is in the best interest of our stockholders and the company to hold future executive compensation advisory votes more or less frequently.

How will votes be counted?

Each share of common stock will be counted as one vote. Shares will not be voted in favor of a matter, and will not be counted as voting on a matter, if the holder of the shares either withholds authority to vote for a particular director nominee or nominees, or abstains from voting on a particular matter, or if the shares are broker non-votes. As a result, withheld shares, abstentions and broker non-votes will have no effect on the outcome of voting on the election of directors or on any of the other proposals.

How does the board of directors recommend that I vote?

Our board of directors recommends that you vote as follows:

- To elect the three nominees to the board of directors;
- FOR Proposal Two, Proposal Three, Proposal Four, and Proposal Six; and
- FOR "ONE YEAR" on Proposal Five.

Under the Securities Exchange Act and related SEC regulations, both the vote on executive compensation (Proposal Four) and the vote on the frequency of the vote on executive compensation (Proposal Five) are advisory

votes, meaning they are non-binding. The vote on ratification of Ernst & Young as our independent registered public accounting firm is also advisory. Our board will carefully consider the outcome of each of these votes.

Will any other business be conducted at the annual meeting?

Our board of directors does not know of any other business to be conducted or matters to be voted upon at the annual meeting. If any other matter properly comes before the annual meeting, the persons named in the proxy card that accompanies this proxy statement will exercise their judgment in deciding how to vote or otherwise act with respect to that matter at the annual meeting.

Who is making and paying for the solicitation of proxies and how is it made?

We are making the solicitation and will bear the costs of soliciting proxies. In addition to solicitations by mail, our directors, officers and regular employees, without additional remuneration, may solicit proxies by telephone, facsimile, email, personal interviews and other means. We have requested that brokerage houses, custodians, nominees and fiduciaries forward copies of the proxy materials to the persons for whom they hold shares and request instructions for voting the proxies. We will reimburse the brokerage houses and other persons for their reasonable out-of-pocket expenses in connection with this distribution.

How and when may I submit a proposal for the 2012 annual meeting?

If you are interested in submitting a proposal for inclusion in the proxy statement and the proxy card for our 2012 annual meeting, you need to follow the procedures outlined in Rule 14a-8 of the Securities Exchange Act of 1934. We must receive your proposal intended for inclusion in the proxy statement at our principal executive offices, 167 Sidney Street, Cambridge, Massachusetts 02139, Attention: Secretary, no later than January 13, 2012. SEC rules set standards for the types of stockholder proposals and the information that must be provided by the stockholder making the request.

If you wish to present a proposal at the 2012 annual meeting, but do not wish to have the proposal considered for inclusion in the proxy statement and proxy card or have not complied with the requirements for inclusion of such proposal in our proxy statement under SEC rules, you must also give written notice to us at the address noted above. Our bylaws specify the information that must be included in any such notice, including a brief description of the business to be brought before the annual meeting, the name of the stockholder proposing such business and stock ownership information for such stockholder. In accordance with our bylaws, we must receive this notice at least 60 days, but not more than 90 days, prior to the date of the 2012 annual meeting and the notice must include specified information regarding the proposal and the stockholder making the proposal.

Notwithstanding the foregoing, if we provide less than 70 days notice or prior public disclosure of the date of the annual meeting to the stockholders, notice by the stockholders must be received by our Secretary no later than the close of business on the tenth day following the date on which the notice of the annual meeting was mailed or such public disclosure was made, whichever occurs first. If a stockholder who wished to present a proposal fails to notify us by this date, the proxies that management solicits for that meeting will have discretionary authority to vote on the stockholder's proposal if it is otherwise properly brought before that meeting. If a stockholder makes timely notification, the proxies may still exercise discretionary authority to vote on stockholder proposals under circumstances consistent with the SEC's rules.

Are annual meeting materials househanded?

Some banks, brokers and other nominee record holders may be participating in the practice of "householding" proxy statements and annual reports. This means that the brokers and nominee record holders send only one copy of this proxy statement and the accompanying annual report to multiple stockholders in the same household. Upon request, we will promptly deliver separate copies of this proxy statement and our annual report. To make such a request, please call (617) 679-5500 or write to Investor Relations, 167 Sidney Street, Cambridge, Massachusetts 02139 or ir@iderapharma.com. To receive separate copies of our annual report and proxy statement in the future, or to receive only one copy for the household, please contact your bank, broker, or other nominee record holder, or contact us at the above address and phone number.

PROPOSAL ONE — ELECTION OF DIRECTORS General Information

Our board of directors is divided into three classes and currently consists of three Class I directors: C. Keith Hartley, Hans Mueller, Ph.D. and William S. Reardon, C.P.A.; three Class II directors: Robert W. Karr, M.D., Malcolm MacCoss, Ph.D., and James B. Wyngaarden, M.D.; and three Class III directors: Sudhir Agrawal, D. Phil., Eve E. Slater, M.D. and Youssef El Zein. The terms of the three classes are staggered so that one class is elected each year. Members of each class are elected for three-year terms. The Class I, Class II and Class III directors were elected to serve until the annual meeting of stockholders to be held in 2011, 2012 and 2013, respectively, and until their respective successors are elected and qualified.

Our board of directors, on the recommendation of our nominating and corporate governance committee, has nominated Mr. Hartley, Dr. Mueller and Mr. Reardon for election as Class I directors. The persons named in the enclosed proxy card will vote to elect Mr. Hartley, Dr. Mueller and Mr. Reardon as Class I directors unless you indicate that you withhold authority to vote for the election of any or all nominees. You may not vote for more than three directors. Each Class I director will be elected to hold office until the 2014 annual meeting of stockholders and until his successor is elected and qualified or until his earlier resignation, death or removal. Each of the nominees is presently a director and each has indicated a willingness to serve as a director, if elected. If a nominee becomes unable or unwilling to serve, however, the persons acting under the proxy may vote for substitute nominees selected by the board of directors.

Information about our Directors

Set forth below are the names of each of the nominees for election as Class I directors, the names of each of our other continuing directors, the years in which each first became a director, their ages as of March 31, 2011, their positions and offices with our company, their principal occupations and business experience during at least the past five years and the names of other public companies for which they currently serve, or have served within the past five years, as a director. We have also included information about each director's specific experience, qualifications, attributes or skills that led our board of directors to conclude that such individual should serve as one of our directors. We also believe that all of our directors, including our nominees, have a reputation for integrity, honesty and adherence to high ethical standards. They each have demonstrated business acumen and an ability to exercise sound judgment, as well as a commitment of service to Idera and our board.

Our board of directors recommends that you vote FOR the election of Mr. Hartley, Dr. Mueller and Mr. Reardon as Class I directors.

Class I Nominees — Terms to Expire in 2014

C. Keith Hartley

Director since 2000

Mr. Hartley, age 68, has been President of Hartley Capital Advisors, a financial consulting firm, since June 2000. Mr. Hartley was Managing Partner of Forum Capital Markets LLC, an investment banking firm, from August 1995 to May 2000. Mr. Hartley also serves as a director of Universal Display Corporation, a publicly traded company that develops flat panel displays. We believe that Mr. Hartley's qualifications to sit on our board of directors include his business and finance background, his investment banking background and knowledge of the capital markets and his relationship with us since 1997 when his investment banking firm led our debt financing.

Hans Mueller, Ph.D.

Director since 2007

Dr. Mueller, age 70, most recently served as Senior Vice President of Global Business Development at Wyeth Pharmaceuticals, a pharmaceutical company, from 1993 to 2004. Upon his retirement in 2004, Dr. Mueller began consulting for a number of private life science companies. From 1985 to 1993, Dr. Mueller served as Executive Vice President, President and Chief Executive Officer of Nova Pharmaceutical Corporation (now part of Johnson & Johnson), a drug research and development company. Prior to this, he held roles with increasing levels of responsibility at Sandoz, now part of Novartis AG, a pharmaceutical company, in the areas of research, regulatory

affairs, manufacturing, systems development, new product planning, licensing and business development. Dr. Mueller served as a director of SCOLR Pharma, Inc., a publicly traded pharmaceuticals company, from September 2004 to June 2007, and currently serves as Chairman of Amorceyte Inc., a privately held development stage company as well as on the board of a privately held research stage company. We believe that Dr. Mueller's qualifications to sit on our board of directors include his extensive pharmaceutical industry background and his expertise in business development, which is a key part of our strategy.

William S. Reardon, C.P.A.

Director since 2002

Mr. Reardon, age 64, has been Lead Independent Director of our board of directors since September 2010. He was an audit partner at PricewaterhouseCoopers LLP, where he led the Life Science Industry Practice for New England and the Eastern United States from 1986 until his retirement from the firm in July 2002. Mr. Reardon served on the board of the Emerging Companies Section of the Biotechnology Industry Organization from June 1998 to June 2000 and the board of directors of the Massachusetts Biotechnology Council from April 2000 to April 2002. He serves as a director of Synta Pharmaceuticals, Inc., a publicly-traded biopharmaceutical company, and he served as a director of Oscient Pharmaceuticals Corporation, a publicly-traded pharmaceutical company from March 2003 to March 2010. Mr. Reardon has also served as a trustee of closed-end mutual funds H&Q Healthcare Investors and H&Q Life Sciences Investors, since April 2010. We believe that Mr. Reardon's qualifications to sit on our board of directors include his accounting and financial experience, including as a partner at a leading accounting firm leading its life science practice, his role in keeping the board of directors and senior management team abreast of current accounting regulations and his experience as a member of several boards of directors of biotechnology companies. Additionally, we value Mr. Reardon's role in leading the Board on matters of corporate governance, both as Lead Independent Director and prior to his appointment to that position.

Continuing Members of the Board of Directors

Class II Directors — Terms to Expire in 2012

Robert W. Karr, M.D.

Director since 2005

Dr. Karr, age 62, has been Managing Director of Karr Pharma Consulting LLC, a consulting firm serving pharmaceutical and biotechnology clients since January 2008. Dr. Karr served as our President from December 2005 until December 2007. Prior to joining us, Dr. Karr was an independent consultant. From June 2000 through December 2004, Dr. Karr was a senior executive in Global Research & Development for Pfizer, Inc., a pharmaceutical company, where he served as Senior Vice President, Strategic Management from 2003 to 2004 and Vice President, Strategic Management from 2000 to 2003. Prior to its merger with Pfizer, Dr. Karr served as Vice President, Research & Development Strategy for Warner-Lambert Company, a pharmaceutical company. He also serves on the board of directors of GTx, Inc., a publicly-traded biotechnology company. We believe that Dr. Karr's qualifications to sit on our board of directors include his broad managerial and scientific experience in the pharmaceutical industry, his understanding of our company given his role as our former President and his continuing role as a director and consultant, and his contribution to the board of directors in discussions of our drug discovery programs, clinical development strategy and clinical programs.

Malcolm MacCoss, Ph.D.

Director since 2010

Dr. MacCoss, age 63, joined our board in January 2010. Dr. MacCoss founded Bohicket Pharma Consulting LLC in January 2010. Dr. MacCoss served as the Group Vice President for Chemical Research at the Schering-Plough Research Institute of Schering-Plough Corporation, a pharmaceutical company that is now part of Merck & Co., Inc., from August 2008 to January 2010. In this role he served as the Head of Chemistry at the Schering-Plough Kenilworth, New Jersey site and as the chair of the Schering-Plough Global Chemistry Council, a forum for formulating global chemistry strategies. From 1999 to August 2008, Dr. MacCoss served as Vice President, Basic Chemistry at the Rahway, New Jersey site of Merck Research Laboratories, of Merck & Co., Inc., a pharmaceutical company. He also served as the Vice President of Basic Chemistry and Drug Discovery Sciences, as the Deputy Site-Head of the Rahway site and as the Chairman of the Merck World-Wide Chemistry Council. Dr. MacCoss is a Fellow of the Royal Society of Chemistry, and in 2009 he was admitted into the American Chemical Society Medicinal Chemistry Hall of Fame. He serves on the Advisory Committee

of the Executive Dean for the School of Arts and Sciences, Rutgers University, and on the Advisory Board of the Rutgers University Chemistry and Chemical Biology Department. We believe that Dr. MacCoss' qualifications to sit on our board of directors include his extensive scientific background, his 20 plus years experience with pharmaceutical companies, and his contribution to the board of directors in discussions of our drug discovery programs, clinical development strategy and clinical programs.

James B. Wyngaarden, M.D.

Director since 1990

Dr. Wyngaarden, age 86, served as the chairman of our board of directors from February 2000 until September 2010, and was vice chairman from February 1997 to February 2000. Dr. Wyngaarden co-founded the Washington Advisory Group LLC, a consulting firm, in 1996 and remained a principal until January 2002. He was Senior Associate Dean, International Affairs at the University of Pennsylvania Medical School from 1995 to 1997. Dr. Wyngaarden was Foreign Secretary of the National Academy of Sciences and the Institute of Medicine from 1990 to 1994. He was Director of the Human Genome Organization from 1990 to 1991 and a council member from 1990 to 1993. Dr. Wyngaarden was Director of the National Institutes of Health from 1982 to 1989, and Associate Director for Life Sciences, Office of Science and Technology Policy in the Executive Office of the President, the White House, from 1989 to 1990. Dr. Wyngaarden served as a director of Genaera Corporation, a publicly traded biopharmaceutical company, during the last five years. We believe that Dr. Wyngaarden's qualifications to sit on our board of directors include his reputation and credibility developed through his years of service at private and governmental institutions, his medical and regulatory expertise, and his knowledge of our company from his service on our board of directors since 1990.

Class III Directors — Terms to Expire in 2013

Sudhir Agrawal, D. Phil.

Director since 1993

Dr. Agrawal, age 57, has been the chairman of our board of directors since September 2010, our President since September 2008 and our Chief Executive Officer since August 2004. He also served as our Chief Scientific Officer from January 1993 until September 2010, as our President from February 2000 to October 2005 and as Acting Chief Executive Officer from February 2000 until September 2001. Dr. Agrawal joined us in 1990 and served in various capacities before his appointment as Chief Scientific Officer, including Vice President of Discovery and Senior Vice President of Discovery. Prior to joining us, Dr. Agrawal served as a Foundation Scholar at the Worcester Foundation for Experimental Biology and carried out his post-doctoral research at the Medical Research Council's Laboratory of Molecular Biology in Cambridge, England from 1985 to 1986. We believe that Dr. Agrawal's qualifications to sit on our board of directors include his unique insights into our challenges, opportunities and operations that he has as a result of the roles he has played with us since our founding, including scientific founder, chief scientific officer, chief executive officer and chairman.

Eve E. Slater, M.D.

Director since 2010

Dr. Slater, age 65, joined our board in June 2010 and is currently Associate Professor of Clinical Medicine at Columbia University College of Physicians and Surgeons, where she has taught in various positions since 1983. Dr. Slater was Senior Vice President, Worldwide Policy at Pfizer, Inc. from May 2007 until June 2009. Dr. Slater was the Assistant Secretary for Health, United States Department of Health and Human Services from 2002 until 2003, and was the Acting Assistant Secretary for Health from 2001 until her confirmation by the United States Senate in 2002. Dr. Slater held senior management positions at Merck Research laboratories from 1983 to 2001, including Senior Vice President of External Policy, Vice President of Corporate Public Affairs, Senior Vice President of Clinical and Regulatory Development, Executive Director of Biochemistry and Molecular Biology, and Senior Director of Biochemical Endocrinology. Dr. Slater served as a director of Theravance, Inc., Vertex Pharmaceuticals Incorporated and VaxGen, Inc., in the last five years. Dr. Slater was trained in Internal Medicine and Cardiology at Massachusetts General Hospital, is board certified in Internal Medicine and Cardiology and is a Fellow of the American College of Cardiology. We believe that Dr. Slater's qualifications to sit on our board of directors include her extensive scientific and medical background, significant public company board experience, and years of service with pharmaceutical companies and governmental institutions.

Mr. El Zein, age 62, has been vice chairman of our board of directors since February 1997. Mr. El Zein has been managing partner of Pillar Investment Limited, a private investment firm, since 1991 and is currently the Chairman and CEO of PillarInvest (offshore) SAL. Mr. El Zein obtained a postgraduate degree in Economic Development from Oxford University, where he graduated in 1975. We believe that Mr. El Zein's qualifications to sit on our board of directors include his knowledge of our industry, his financial experience and role in various financings we have conducted, and his 19 years of service on our board of directors.

Director Compensation

We use a combination of cash and equity-based compensation to attract and retain candidates to serve on our board of directors. We do not compensate directors who are also our employees for their service on our board of directors. As a result, Dr. Agrawal does not receive any compensation for his service on our board of directors. We periodically review our cash and equity-based compensation for non-employee directors.

Under our director compensation program, we pay our non-employee directors retainers in cash. Each director receives a cash retainer for service on the board of directors and for service on each committee on which the director is a member. The chairmen of the board and of each committee receive higher retainers for such service. These fees are payable quarterly in arrears. In January 2010, our board of directors approved a change to the fees paid to the members of the compensation committee, including the chairman of the committee. Including this change, effective February 1, 2010, the fees paid to non-employee directors for service on the board of directors and for service on each committee of the board of directors on which the director is a member are as follows:

	<u>Member Annual Fee</u>	<u>Chairman Annual Fee</u>
Board of Directors	\$ 35,000	\$ 60,000
Audit Committee	\$ 7,000	\$ 15,000
Compensation Committee	\$ 7,000	\$ 15,000
Nomination and Corporate Governance Committee	\$ 3,500	\$ 7,500
Scientific Committee	\$ 3,500	\$ 7,500

Additionally, in connection with the appointment of Mr. Reardon as Lead Independent Director in September 2010, our board of directors approved an annual retainer of \$17,500 for the Lead Independent Director. Dr. Agrawal does not receive a fee for his service as chairman of the board of directors.

Our director compensation program also includes a stock-for-fees policy, under which directors have the right to elect to receive common stock in lieu of cash fees. These shares of common stock are issued under our 2008 Stock Incentive Plan. The number of shares to be issued to participating directors is determined on a quarterly basis by dividing the cash fees to be paid through the issuance of common stock by the fair market value of our common stock, which is the closing price of our common stock, on the first business day of the quarter following the quarter in which the fees were earned. In 2010, Mr. MacCoss received 1,875 shares of our common stock in lieu of \$6,188 in cash fees. No other director elected to receive common stock in lieu of cash fees during 2010.

Under our director compensation program, upon their initial election to the board of directors, new non-employee directors receive an initial option grant, and all non-employee directors receive an annual option grant. The annual grants are made on the date of the annual meeting of stockholders. In 2010, the initial option grant was for 16,000 shares and the annual option grant was for 10,000 shares. In December 2010, our compensation committee conducted a full review of our director compensation program. Based on this review, no changes were made to the cash compensation components of our director compensation program but our board of directors determined to increase the size of the option grants to the directors from 16,000 shares to 30,000 shares in the case of the initial option grant and from 10,000 shares to 20,000 shares in the case of the annual option grant. These options vest quarterly over three years from the date of grant, subject to continued service as a director, and are granted under our 2008 Stock Incentive Plan. These options are granted with exercise prices equal to the fair market value of our common stock, which is the closing price of our common stock on the date of grant, and become immediately exercisable in full if there is a change in control of our company.

We also reimburse our directors for travel and other related expenses for attendance at meetings.

In January 2010, our board approved a retirement policy for non-employee members of the board of directors to address the treatment of directors' stock options upon their retirement. In December 2010, our board amended the policy to apply to employees that retire as well. Under this policy, as amended, if a director or employee is deemed to retire, then

- all outstanding options held by such director or employee will automatically vest in full and
- the period during which such director or employee may exercise the options will be extended to the expiration of the option under the plan.

Prior to the December amendment, the period during which a non-employee director could exercise the option following retirement continued until the earlier of (i) the first anniversary of the date of retirement and (ii) the expiration of the option under the plan.

Under the policy, a member of the board of directors will be deemed to have retired if:

- the director resigns from the board or determines not to stand for re-election and has served as a director for more than 10 years, or
- the director does not stand for re-election or is not nominated for re-election due to the fact that he or she is or will be older than 75 at the end of such director's term.

The following table sets forth a summary of the compensation we paid to our non-employee directors for service on our board in 2010. Dr. MacCoss joined our board in January 2010 and has served on the compensation committee and the scientific committee since June 2010. Dr. Slater joined our board in June 2010 and has served on the compensation committee and the scientific committee since that time. Dr. Alison Taunton-Rigby, who served on our board until our annual meeting of stockholders in June 2010, served on the audit committee and the compensation committee from January 2010 to June 2010.

DIRECTOR COMPENSATION FOR 2010

Name	Fees Earned or Paid in Cash (\$)	Option Awards \$(1)(2)	All Other Compensation (\$)	Total (\$)
Youssef El Zein	\$ 49,333	\$36,757	—	\$ 86,090
C. Keith Hartley	\$ 49,500	\$36,757	—	\$ 86,257
Robert W. Karr	\$ 36,750	\$52,389	\$ 46,219(3)	\$135,358
Malcolm MacCoss	\$ 42,250(4)	\$77,193	\$ 6,563(5)	\$126,006
Hans Mueller	\$ 48,833	\$35,348	—	\$ 84,181
William S. Reardon	\$ 62,250	\$36,757	—	\$ 99,007
Eve E. Slater	\$ 22,750	\$38,814	—	\$ 61,564
Alison Taunton-Rigby	\$ 24,333	\$11,500	—	\$ 35,833
James B. Wyngaarden	\$ 58,083	\$36,757	—	\$ 94,840

(1) These amounts represent the aggregate grant date fair value of option awards made to each listed director in 2010 as computed in accordance with Financial Accounting Standards Board Accounting Standards Codification Topic 718, "Stock Compensation" (ASC 718). These amounts do not represent the actual amounts paid to or realized by the directors during 2010. See Note 2(k) of the financial statements in our annual report on Form 10-K for the year ended December 31, 2010 regarding assumptions we made in determining the fair value of option awards. As of December 31, 2010, our non-employee directors held options to purchase shares of our common stock as follows: Mr. El Zein: 66,002; Mr. Hartley: 68,502; Dr. Karr: 145,375; Dr. MacCoss: 26,000; Dr. Mueller: 51,625; Mr. Reardon: 67,877; Dr. Slater: 16,000; Dr. Taunton-Rigby: 55,063; and Dr. Wyngaarden: 66,002.

- (2) Includes an increase in fair value of option awards granted prior to 2010 to each listed director as a result of the adoption in 2010 of the policy regarding the treatment of directors' stock options upon their retirement. This increase was as follows: Mr. El Zein: \$11,790; Mr. Hartley: \$11,790; Dr. Karr: \$27,422; Dr. Mueller: \$10,381; Mr. Reardon: \$11,790; Dr. Taunton-Rigby: \$11,500 and Dr. Wyngaarden: \$11,790.
- (3) Represents consulting fees paid to Dr. Karr pursuant to a consulting agreement between us and Dr. Karr.
- (4) Includes cash meeting fees of \$6,188 in lieu of which of Dr. MacCoss elected to receive shares of our common stock.
- (5) Represents consulting fees paid to Dr. MacCoss pursuant to a consulting agreement between us and Mr. MacCoss.

CORPORATE GOVERNANCE INFORMATION Board of Directors

Our board of directors is responsible for establishing our broad corporate policies and overseeing the management of our company. Our chief executive officer and our other executive officers are responsible for our day-to-day operations. Our board evaluates our corporate performance and approves, among other things, our corporate strategies and objectives, operating plans, major commitments of corporate resources and significant policies. Our board also evaluates and appoints our executive officers.

Our board of directors met nine times during 2010, including regular, special and telephonic meetings. Each director who served as a director during 2010 attended at least 75% of the total number of board meetings held during 2010 while he or she was a director and of the total number of meetings held by all board committees on which he or she served during 2010.

Board Leadership Structure

Our board does not have a policy on whether the offices of chairman of the board and chief executive officer should be separate and, if they are to be separate, whether the chairman of the board should be selected from among the independent directors or should be an employee of the company. Our board believes that it should have the flexibility to make these determinations at any given point in time in the way that it believes best to provide appropriate leadership for our company at that time. The roles of chairman of the board and chief executive officer were held by the same person from August 1991 until February 2000. From February 2000 until September 2010, the positions of chairman of the board of directors and chief executive officer were separate. Throughout that time, Dr. Wyngaarden, a non-employee director, served as chairman. Since September 2010, when Dr. Wyngaarden resigned as chairman of the board, the positions of chairman of the board and chief executive officer have both been held by Dr. Agrawal. Concurrent with the appointment of Dr. Agrawal as chairman, Mr. Reardon was appointed as lead independent director.

When Dr. Wyngaarden informed the board of his desire to step down from the position of chairman, the nominating and corporate governance committee and the full board discussed whether to appoint a new independent chairman, to unify the chairman and chief executive officer positions and/or to appoint a lead independent director. The committee and the board recognized that the company's bylaws do not require that our chairman and chief executive officer positions be separate, that no single leadership model is right for all companies and at all times, and that depending on the circumstances, other leadership models, such as a combined chairman and chief executive officer, might be appropriate. The committee and the board also noted that pursuant to our corporate governance guidelines, if the chairman is not an independent director, the board may elect a lead director from its independent directors. In such case, the chairman and chief executive officer would consult periodically with the lead director on board matters and on issues facing our company. In addition, the lead director would serve as the principal liaison between the chairman of the board and the independent directors and would preside at any executive session of independent directors.

The nominating and corporate governance committee recommended, and the board approved, the appointment of Dr. Agrawal, our chief executive officer, to the position of chairman of the board and the appointment of Mr. Reardon as lead independent director. The board believes that Dr. Agrawal's deep knowledge of our industry and our company, his scientific leadership of our company since 1990 and his strategic leadership of the company make him best suited to serve as both chairman and chief executive officer. At the same time, the board believes that the lead independent director function and its committees of independent directors provide the appropriate level of independent oversight. The board also believes that the lead independent director position includes responsibilities similar to those performed by a chairman of the board of directors who is not also the company's chief executive officer. The Board believes that the appointment of Mr. Reardon as lead independent director provides appropriate balance as a corporate governance matter and that the current structure is in the best interest of stockholders at this time.

Board's Role in Risk Oversight

Our board of directors, as a whole, has responsibility for risk oversight, with reviews of certain areas being conducted by relevant committees that report directly to the board of directors. The oversight responsibility of the board of directors and its committees is enabled by management reporting processes that are designed to provide visibility to the board of directors about the identification, assessment and management of critical risks and management's risk mitigation strategies. These areas of focus include competitive, economic, operational, financial (accounting, credit, liquidity and tax), legal, regulatory, compliance, health, safety, environmental, political and reputational risks. Our board of directors regularly reviews information regarding our strategy, operations, credit and liquidity, as well as the risks associated with each. Our compensation committee is responsible for overseeing risks relating to our executive compensation plans and arrangements. Our audit committee is responsible for overseeing financial risks and risks associated with related party transactions. Our nominating and corporate governance committee is responsible for overseeing risks associated with the independence of the board of directors. While each committee is responsible for evaluating certain risks and overseeing the management of such risks, our entire board of directors is regularly informed through committee reports about such risks.

Board Committees

Our board of directors has established four standing committees: audit, compensation, nominating and corporate governance and scientific. Our audit, compensation and nominating and corporate governance committees each operate under a charter that has been approved by our board of directors. Our board of directors has adopted corporate governance guidelines to assist our board in the exercise of its duties and responsibilities. Current copies of the charters for the audit, compensation and nominating and corporate governance committees and the corporate governance guidelines are posted on our website, www.iderapharma.com, and can be accessed by clicking "Investors" and "Corporate Governance."

Audit Committee

Our audit committee's responsibilities include:

- appointing, approving the compensation of, and assessing the independence of our registered public accounting firm;
- overseeing the work of our registered public accounting firm, including through the receipt and consideration of certain reports from such accounting firm;
- reviewing and discussing with management and the registered public accounting firm our annual and quarterly financial statements and related disclosures;
- monitoring our internal control over financial reporting, disclosure controls and procedures and code of business conduct and ethics;
- discussing our risk management policies;
- establishing procedures for the receipt and retention of accounting related complaints and concerns;
- reviewing and approving related party transactions;
- meeting independently with our registered public accounting firm and management; and
- preparing the audit committee report required by SEC rules, which is included in the section of this proxy statement entitled "Accounting Matters — Report of the Audit Committee."

The current members of our audit committee are Mr. Reardon (Chairman), Mr. Hartley, Dr. Karr and Dr. Mueller. Dr. Taunton-Rigby served on the audit committee from January 2010 until June 2010. Mr. Hartley was appointed to the audit committee in June 2010 and Dr. Karr was appointed in January 2011. Our board of directors has determined that all four members of the audit committee are "audit committee financial experts" within the meaning of SEC rules and regulations. During 2010, our audit committee held seven meetings in person or by teleconference.

Compensation Committee

Our compensation committee's responsibilities include:

- annually reviewing and approving corporate goals and objectives relevant to compensation for our executive officers;
- determining the compensation of our senior executives;
- overseeing the evaluation of our senior executives;
- overseeing and administering our cash and equity incentive plans;
- reviewing and making recommendations to the board of directors with respect to director compensation;
- reviewing and discussing annually with management our "Compensation Discussion and Analysis" required by the SEC's rules and included in this proxy statement; and
- preparing the compensation committee report required by SEC rules, which is included in the section of this proxy statement entitled "Executive Compensation — Compensation Committee Report."

The current members of our compensation committee are Mr. El Zein (Chairman), Dr. MacCoss, Dr. Mueller and Dr. Slater. Drs. MacCoss and Slater were appointed to the compensation committee in June 2010. Drs. Wyngaarden and Taunton-Rigby served on the compensation committee from January 2010 until June 2010. During 2010, the compensation committee held nine meetings in person or by teleconference.

The processes and procedures followed by our compensation committee in considering and determining director and executive compensation are described below under the heading "Executive Compensation."

Nominating and Corporate Governance Committee

Our nominating and corporate governance committee's responsibilities include:

- identifying individuals qualified to become members of our board of directors;
- recommending to our board of directors the persons to be nominated for election as directors or to fill vacancies on our board of directors, and the persons to be appointed to each of the committees of the board of directors;
- reviewing and making recommendations to the board of directors with respect to management succession planning;
- developing and recommending to the board of directors corporate governance principles; and
- overseeing periodic evaluations of the board of directors.

The current members of our nominating and corporate governance committee are Mr. Hartley (Chairman), Mr. El Zein, Mr. Reardon and Dr. Wyngaarden. During 2010, the nominating and corporate governance committee held four meetings in person or by teleconference.

The processes and procedures followed by our nominating and corporate governance committee in identifying and evaluating director candidates are described below under the heading "Director Nomination Process."

Scientific Committee

Our scientific committee was established in June 2010. Its responsibilities include:

- assisting the board of directors in overseeing our science and drug development programs; and
- advising the board of directors with respect to strategic and tactical scientific issues.

The current members of our scientific committee are Dr. MacCoss (Chairman), Dr. Karr and Dr. Slater. During 2010, the scientific committee held two meetings in person or by teleconference.

Director Independence

Under applicable NASDAQ rules, a director will only qualify as an “independent director” if, in the opinion of our board of directors, that person does not have a relationship which would interfere with the exercise of independent judgment in carrying out the responsibilities of a director. Our board of directors has determined that Mr. Hartley, Dr. Karr, Dr. MacCoss, Dr. Mueller, Mr. Reardon, Dr. Slater, Dr. Wyngaarden and Mr. El Zein and all of the members of each of the audit, compensation and nominating and corporate governance committees are independent as defined under applicable NASDAQ rules including, in the case of all members of the audit committee, the independence requirements contemplated by Rule 10A-3 under the Securities Exchange Act of 1934.

Director Nomination Process

The process followed by our nominating and corporate governance committee to identify and evaluate director candidates includes requests to members of our board of directors and others for recommendations, meetings from time to time to evaluate biographical information and background material relating to potential candidates and interviews of selected candidates by members of our nominating and corporate governance committee and our board of directors. The nominating and corporate governance committee has from time to time used a third-party recruiting firm to identify and interview potential candidates.

In considering whether to recommend any particular candidate for inclusion in the board’s slate of recommended director nominees, the nominating and corporate governance committee will apply the criteria set forth in our corporate governance guidelines. These criteria include the candidate’s:

- business acumen;
- knowledge of our business and industry;
- age;
- experience;
- diligence;
- conflicts of interest;
- ability to act in the interests of all stockholders; and
- in the case of the renomination of existing directors, the performance of the director on our board of directors and on any committee of which the director was a member.

Our corporate governance guidelines also provide that candidates should not be discriminated against on the basis of race, religion, national origin, sex, sexual orientation, disability or any other basis proscribed by law and that our nominating and corporate governance committee should consider the value of diversity of the board of directors when evaluating particular candidates. The committee has not adopted any formal or informal diversity policy and treats diversity as one of the criteria to be considered by the committee. The committee does not assign specific weights to particular criteria that the committee reviews and no particular criterion is a prerequisite for the consideration of any prospective nominee. We believe that the backgrounds and qualifications of our directors, considered as a group, should provide a composite and diverse mix of experience, knowledge and abilities that will allow the board of directors to fulfill its responsibilities.

Stockholder Nominees

Stockholders may recommend individuals to the nominating and corporate governance committee for consideration as potential director candidates by submitting the individuals’ names, together with appropriate biographical information and background materials and a statement as to whether the stockholder or group of stockholders making the recommendation has beneficially owned more than 5% of our common stock for at least one year as of the date such recommendation is made, to Nominating and Corporate Governance Committee, c/o Secretary, Idera Pharmaceuticals, Inc., 167 Sidney Street, Cambridge, Massachusetts 02139. Assuming that

appropriate biographical and background material has been provided on a timely basis, the nominating and corporate governance committee will evaluate stockholder-recommended candidates by following substantially the same process, and applying substantially the same criteria, as it follows for candidates submitted by others. If the board of directors determines to nominate a stockholder-recommended candidate and recommends his or her election, then his or her name will be included in our proxy card for the next annual meeting.

Stockholders also have the right under our bylaws to nominate director candidates directly, without any action or recommendation on the part of the nominating and corporate governance committee or the board of directors, by following the procedures set forth in our bylaws, including advance notice requirements. Candidates nominated by stockholders in accordance with the procedures set forth in our bylaws will not be included in our proxy card for the next annual meeting. See “Information about the Annual Meeting — How and when may I submit a proposal for the 2012 annual meeting?” for more information about these procedures.

Communicating with our Board of Directors

Our board of directors will give appropriate attention to written communications that are submitted by stockholders and will respond if and as appropriate. The chairman of the board of directors (if an independent director) or the lead independent director, if any, is primarily responsible for monitoring communications from stockholders and for providing copies or summaries to the other directors, as he or she considers appropriate.

Communications are forwarded to all directors if they relate to important substantive matters and include suggestions or comments that the chairman of the board of directors or lead independent director, as the case may be, considers to be important for the directors to know. In general, communications relating to corporate governance and long-term corporate strategy are more likely to be forwarded than communications relating to ordinary business affairs, personal grievances and matters that involve repetitive or duplicative communications.

Stockholders who wish to send communications on any topic to the board of directors should address such communications to Board of Directors, c/o Secretary, Idera Pharmaceuticals, Inc., 167 Sidney Street, Cambridge, Massachusetts 02139.

Each communication from a stockholder should include the following information in order to permit stockholder status to be confirmed and to provide an address to forward a response if deemed appropriate:

- the name, mailing address and telephone number of the stockholder sending the communication;
- the number of shares held by the stockholder; and
- if the stockholder is not a record owner of our securities, the name of the record owner of our securities beneficially owned by the stockholder.

Director Attendance at Annual Meeting of Stockholders

Directors are expected to attend the annual meeting of stockholders. Other than Dr. Taunton-Rigby, all directors attended the 2010 annual meeting of stockholders.

Compensation Committee Interlocks and Insider Participation

Our compensation committee currently consists of Mr. El Zein, Dr. MacCoss, Dr. Mueller and Dr. Slater. Drs. MacCoss and Slater were appointed to the compensation committee in June 2010. Drs. Wyngaarden and Taunton-Rigby served on the compensation committee from January to June 2010. No member of our compensation committee was at any time during 2010, or was formerly, an officer or employee of ours. No member of our compensation committee engaged in any related person transaction involving our company during 2010. None of our executive officers has served as a director or member of the compensation committee (or other committee serving the same function as the compensation committee) of any other entity, while an executive officer of that other entity served as a director or member of our compensation committee.

Executive Officers of Idera Pharmaceuticals

The following table sets forth the names, ages and positions of our executive officers as of April 15, 2011:

<u>Name</u>	<u>Age</u>	<u>Position</u>
Sudhir Agrawal, D. Phil*	57	Chairman, President and Chief Executive Officer
Louis J. Arcudi, III	50	Senior Vice President of Operations, Chief Financial Officer, Treasurer and Secretary
Timothy M. Sullivan, Ph.D.	56	Vice President of Development Programs and Alliance Management
Robert D. Arbeit, M.D.	63	Vice President, Clinical Development

* Dr. Agrawal is a continuing member of our board of directors. See “Proposal One — Election of Directors” for more information about Dr. Agrawal.

Louis J. Arcudi, III has been our Senior Vice President of Operations since April 2011 and our Chief Financial Officer, Treasurer and Secretary since he joined us in December 2007. Prior to joining us, Mr. Arcudi served as Vice President of Finance and Administration and Treasurer for Peptimmune, Inc., a biotechnology company, from 2003 to 2007. From 2000 to 2003 Mr. Arcudi was Senior Director of Finance and Administration at Genzyme Molecular Oncology Corporation, a division of Genzyme Corporation, a biotechnology company. He was Director of Finance Business Planning and Operations International at Genzyme from 1998 to 2000. Prior to joining Genzyme, he held finance positions with increasing levels of responsibility at Cognex Corporation, a supplier of machine vision systems, Millipore Corporation, a provider of technologies, tools and services for bioscience, research and biopharmaceutical manufacturing, and General Motors Corporation, an automobile manufacturer. Mr. Arcudi received a M.B.A. from Bryant College and a B.S. in accounting and information systems from the University of Southern New Hampshire.

Timothy M. Sullivan, Ph.D., has been our Vice President, Development Programs and Alliance Management since April 2010 and was our Vice President, Development Programs from August 2004 until April 2010. He joined us in 2002 as Senior Director, Preclinical Drug Development. His prior professional experience includes positions as Executive Director of Non-clinical Drug Safety Evaluation for Purdue Pharma L.P., a pharmaceutical company, from 1999 to 2002 and Vice President of Eastern Operations for Oread, Inc., a contract drug development organization, from 1997 to 1999. Prior to 1997, Dr. Sullivan held a variety of technical management roles with other pharmaceutical companies and contract research organizations, including Adria, Battelle, Roma Toxicology Centre, and in veterinary medicine, including International Minerals & Chemical. Dr. Sullivan earned his B.S. in microbiology from Michigan State University in 1975. His graduate studies were at Purdue University, where he earned a M.S. degree in health physics in 1978 and a Ph.D. in toxicology in 1981.

Robert D. Arbeit, M.D., joined us in August 2009 as Vice President, Clinical Development. Prior to joining us, Dr. Arbeit was Vice President, Clinical Development, from July 2007 to July 2009, and Executive Director, Clinical Development, from February 2003 until July 2007, at Paratek Pharmaceuticals, Inc., a pharmaceutical company. Prior to that, from January 2001 to January 2003, he served at Cubist Pharmaceuticals, Inc., a pharmaceutical company, as Executive Medical Director. From 1979 to 2000, Dr. Arbeit held positions with increasing levels of responsibility at the VA Medical Center in Boston, where his last position was Associate Chief of Staff for Research. Dr. Arbeit received his B.A. from Williams College and earned an M.D. at Yale University School of Medicine. He completed a medical residency at Yale-New Haven Hospital, CT and a Clinical Fellowship in Infectious Diseases at Beth Israel Hospital, Boston, MA.

SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

On January 31, 2011, we had 27,600,324 shares of common stock issued and outstanding. The following table sets forth information we know about the beneficial ownership of our common stock, as of January 31, 2011, by:

- each person known by us to own beneficially more than 5% of the outstanding shares of our common stock;
- each of our directors;
- each of our named executive officers; and
- all directors and executive officers as a group.

Name of Beneficial Owner(1)	Amount and Nature of Beneficial Ownership(2)	Percentage of Common Stock Outstanding
5% Stockholders		
Senator Investment Group LP(3) 1330 Avenue of the Americas 26 th Floor New York, NY 10019	3,234,505	11.7%
Felix J. Baker and Julian C. Baker(4) 667 Madison Avenue New York, NY 10065	1,992,947	6.8%
Merck & Co, Inc.(5) One Merck Drive Whitehouse Station, NJ 08889	1,818,182	6.6%
Sudhir Agrawal, D. Phil.(6)	1,448,274	5.0%
Other Directors and Named Executive Officers		
Robert D. Arbeit, M.D.(7)	27,106	*
Louis J. Arcudi, III(8)	148,677	*
Youssef El Zein(9)	629,074	2.3%
C. Keith Hartley(10)	110,185	*
Robert W. Karr, M.D.(11)	133,423	*
Malcolm MacCoss, Ph.D.(12)	9,709	*
Hans Mueller, Ph.D.(13)	49,124	*
William S. Reardon(14)	60,609	*
Eve E. Slater(15)	4,000	*
Timothy M. Sullivan, Ph.D.(16)	197,881	*
James B. Wyngaarden, M.D.(17)	90,186	*
All current directors and executive officers as a group(18)	2,908,248	9.8%

* Less than 1%

(1) Except as otherwise noted, the address for each person listed above is c/o Idera Pharmaceuticals, Inc., 167 Sidney Street, Cambridge, Massachusetts 02139.

(2) The number of shares beneficially owned by each person is determined under rules of the SEC, and the information is not necessarily indicative of beneficial ownership for any other purpose. Under such rules, beneficial ownership includes any shares as to which the stockholder has the sole or shared voting power or investment power and any shares that the stockholder has the right to acquire within 60 days after January 31, 2011 through the conversion of any convertible security or the exercise of any stock option, warrant or other right. Unless otherwise indicated, each stockholder has sole investment and voting power (or shares such power with his or her spouse) with respect to the shares set forth in the table. The inclusion of any shares deemed beneficially owned does not constitute an admission of beneficial ownership of such shares.

- (3) As reported on a Schedule 13G filed with the SEC on August 12, 2010. Senator Investment Group LP also holds warrants exercisable into 1,293,802 shares of common stock that are not included as beneficially owned by Senator Investment Group LP in the table above. The warrants may be exercised so long as Senator Investment Group LP holds no more than 4.99% of the number of shares of common stock outstanding after such exercise. The limit may be increased to 9.99% upon no less than 61 days notice to Idera. Senator Investment Group LP, a Delaware limited partnership, serves as investment manager to two Delaware limited partnerships, four Cayman Islands limited partnerships, and a Cayman Islands company (collectively, the "Funds"), and as such, has investment discretion with respect to the Funds. The partners of the Funds have the right to participate in the receipt of dividends from, or proceeds from the sale of, the securities reported herein held by the Funds in accordance with their respective ownership interests in the Funds. Senator Investment Group LP disclaims beneficial ownership of the securities.
- (4) As reported on a Schedule 13G/A filed with the SEC on February 14, 2011. Set forth below is the aggregate number of shares of our common stock beneficially held as of December 31, 2010 by each of the entities listed in the table below. These shares include an aggregate of 1,704,545 shares that maybe acquired upon the exercise of warrants.

<u>Registered Holder</u>	<u>Shares of Common Stock</u>
Baker Brothers Life Sciences, L.P.	1,264,291
Baker Brothers Investments, L.P.	52,763
Baker Brothers Investments II, L.P.	48,444
667, L.P.	588,676
14159, L.P.	38,624
Baker Tisch Investments, L.P.	149
Total	<u>1,992,947</u>

By virtue of their ownership of entities that have the power to control the investment decisions of the limited partnerships listed in the table above, Felix J. Baker and Julian C. Baker may each be deemed to be beneficial owners of shares owned by such entities and may be deemed to have shared power to vote or direct the vote of and shared power to dispose or direct the disposition of such securities.

- (5) As reported on a Schedule 13G filed with the SEC on December 15, 2006.
- (6) Includes 1,321,997 shares of common stock subject to outstanding stock options that are exercisable within 60 days after January 31, 2011.
- (7) Includes 24,843 shares of common stock subject to outstanding stock options that are exercisable within 60 days after January 31, 2011.
- (8) Includes 142,812 shares of common stock subject to outstanding stock options that are exercisable within 60 days after January 31, 2011.
- (9) Includes 53,501 shares of common stock subject to outstanding stock options that are exercisable within 60 days after January 31, 2011.
- (10) Includes 56,001 shares of common stock subject to outstanding stock options that are exercisable within 60 days after January 31, 2011. Also includes 2,434 shares of common stock held in a Defined Benefit Pension Plan, owned and controlled solely by Mr. Hartley.
- (11) Includes 549 shares of common stock held by the Robert W. Karr Revocable Trust. Dr. Karr disclaims beneficial ownership of all shares held in this trust. Also includes 132,874 shares of common stock subject to outstanding stock options that are exercisable within 60 days after January 31, 2011.
- (12) Includes 7,834 shares of common stock subject to outstanding stock options that are exercisable within 60 days after January 31, 2011.

- (13) Includes 10,000 shares of common stock held in an Individual Retirement Account, owned and controlled solely by Dr. Mueller. Also includes 39,124 shares of common stock subject to outstanding stock options that are exercisable within 60 days after January 31, 2011.
- (14) Includes 55,376 shares of common stock subject to outstanding stock options that are exercisable within 60 days after January 31, 2011.
- (15) Consists of shares of common stock subject to outstanding stock options that are exercisable within 60 days after January 31, 2011.
- (16) Includes 172,967 shares of common stock subject to outstanding stock options that are exercisable within 60 days after January 31, 2011.
- (17) Includes 53,501 shares of common stock subject to outstanding stock options that are exercisable within 60 days after January 31, 2011.
- (18) Includes 2,064,830 shares of common stock subject to outstanding stock options held by the directors and executive officers as a group that are exercisable within 60 days after January 31, 2011.

EXECUTIVE COMPENSATION Compensation Discussion and Analysis

The compensation committee of our board of directors is responsible for establishing compensation policies with respect to our executive officers, including our chief executive officer and our other executive officers who are listed in the Summary Compensation table below and who we refer to as “named executive officers.” Our compensation committee makes compensation decisions relating to our executive officers after consultation with our board of directors.

Overview of Compensation Program and Philosophy

The compensation committee seeks to achieve the following broad goals in connection with our executive compensation programs and decisions regarding individual compensation:

- attract, retain and motivate the best possible executive talent;
- ensure executive compensation is aligned with our corporate strategies and business objectives, including our short-term operating goals and longer-term strategic objectives;
- promote the achievement of key strategic and financial performance measures by linking short- and long-term cash and equity incentives to the achievement of measurable corporate and individual performance goals; and
- align executives’ incentives with the creation of stockholder value.

To achieve these objectives, the compensation committee evaluates our executive compensation program with the goal of setting compensation at levels the committee believes are competitive with those of other companies in our industry and our region that compete with us for executive talent. In addition, our executive compensation program ties a substantial portion of each executive officer’s overall compensation to key strategic, financial, research and operational goals such as clinical trial and regulatory progress, intellectual property portfolio development, establishment and maintenance of key strategic relationships and exploration of business development opportunities, as well as our financial and operational performance. We also provide a portion of our executive compensation in the form of stock options or other stock awards that vest over time, which we believe helps to retain our executives and align their interests with those of our stockholders by allowing them to participate in the longer term success of our company as reflected in stock price appreciation.

During 2009 and 2010, our compensation committee engaged Radford Surveys + Consulting, or Radford, to provide advice and recommendations regarding the amount and form of executive compensation, equity incentive programs and compensation generally. During 2010, Radford also advised our compensation committee on our director compensation program, which is discussed above under “Proposal One — Election of Directors —

Director Compensation.” Radford did not provide any services to our company other than pursuant to its engagement by the compensation committee.

As part of its engagement, Radford provided data on executive compensation from a peer group of publicly traded companies which the committee believes have business life cycles, growth profiles, market capitalizations, products, research and development investment levels and number/capabilities of employees that are comparable to ours. In working with Radford to develop the peer group, the committee and Radford generally targeted companies ranging from one-third to three times Idera’s size in terms of number of employees and market capitalization, with lead drug candidates typically in Phase 2 or Phase 3. Radford also provides compensation survey data from the Radford Global Life Science Survey, a survey of U.S. biotech companies. Our compensation committee reviews a blend of the peer group and survey data in its determinations regarding executive compensation. We refer to this blended data as the “market compensation data.”

The companies included in the peer group to which the committee compared our executive compensation in December 2009 in connection with the establishment of base salaries and target bonus percentages for 2010 were:

Allos Therapeutics, Inc.	Anadys Pharmaceuticals, Inc.	ARIAD Pharmaceuticals, Inc.
ArQule, Inc.	AVI BioPharma, Inc.	BioCryst Pharmaceuticals, Inc.
Celldex Therapeutics, Inc.	Cytokinetics, Incorporated	CytRx Corp.
Dynavax Technologies Corp.	GenVec, Inc.	Infinity Pharmaceuticals, Inc.
Maxygen, Inc.	Micromet, Inc.	Novavax, Inc.
Optimer Pharmaceuticals, Inc.	Pain Therapeutics, Inc.	Peregrine Pharmaceuticals, Inc.
Poniard Pharmaceuticals, Inc.	Sangamo BioSciences, Inc.	Synta Pharmaceuticals Corp.
Targacept, Inc.		

In connection with the committee’s annual review of executive compensation in November 2010 and December 2010, the committee developed a revised list of companies as the peer group. The committee considered data from this peer group in connection with the determination of option grants in December 2010 and base salaries for 2011. The companies included in the peer group were:

Achillion Pharmaceuticals, Inc.*	Anadys Pharmaceuticals, Inc.	ARIAD Pharmaceuticals, Inc.
ArQule, Inc.	AVI BioPharma, Inc.	BioCryst Pharmaceuticals, Inc.
Celldex Therapeutics, Inc.	Cyclacel Pharmaceuticals, Inc.*	Cytokinetics, Incorporated
CytRx Corp.	Dynavax Technologies Corp.	GenVec, Inc.
Infinity Pharmaceuticals, Inc.	Micromet, Inc.	Myrexix, Inc.*
Novavax, Inc.	Peregrine Pharmaceuticals, Inc.	Sangamo BioSciences, Inc.
Synta Pharmaceuticals Corp.		

* Represents companies included in this peer group and not included in the prior year’s peer group. The following six companies were eliminated from this peer group by the compensation committee as described above: Allos Therapeutics, Inc., Maxygen, Inc., Optimer Pharmaceuticals, Inc., Pain Therapeutics, Inc., Poniard Pharmaceuticals, Inc. and Targacept, Inc.

Our compensation committee intends that if the company achieves its goals and the executive performs at the level expected, then the executive should have the opportunity to receive compensation that is competitive with industry norms. Accordingly, our compensation committee generally targets overall compensation for executives towards the 50th percentile of the market compensation data. However, the compensation committee from time to time targets a different percentile for individual elements of compensation or specific individuals based on experience, performance levels and potential performance levels of the executive and changes in duties and responsibilities.

In order to accomplish its objectives consistent with its philosophy for executive compensation, our compensation committee takes the following actions annually:

- reviews executive officer performance;

- reviews all components of executive officer compensation, including base salary, cash bonuses, equity compensation, the dollar value to the executive and cost to us of all health and life insurance and other employee benefits and the estimated payout obligations under severance and change in control scenarios;
- seeks input from our chief executive officer on the performance of all other executive officers;
- consults with an independent compensation consultant;
- holds executive sessions (without our management present);
- reviews information regarding the performance and executive compensation of other companies; and
- reviews all of the foregoing with the board of directors.

Under our annual performance review program for our executives, annual performance goals are determined for our company as a whole and for each executive individually. Annual corporate goals are proposed by management and approved by the compensation committee. These corporate goals target the achievement of specific research, clinical, operational and financial milestones.

Annual individual goals focus on contributions that facilitate the achievement of the corporate goals and are closely aligned with the corporate goals. Individual goals are proposed by each executive and approved by the chief executive officer. Typically, the compensation committee sets the chief executive officer's goals and reviews and discusses with the chief executive officer the goals for all other executive officers. The individual performance goals of each named executive officer consist primarily of the key objectives and goals from our annual business plan that relate to the functional area for which the named executive officer is responsible. The individual performance goals for the chief executive officer are largely coextensive with the corporate goals.

Generally, at the end of each year, the compensation committee evaluates corporate and individual performance. The compensation committee considers the achievement of the corporate goals and individual performance as factors in determining annual salary increases, annual bonuses and annual stock option awards granted to our executives, although because of their high level of responsibility within the company, the determination of annual bonuses for our executive officers, including our named executive officers, is heavily weighted on our corporate performance. In assessing corporate performance, the committee evaluates corporate performance alongside the approved corporate goals for the year and also evaluates other aspects of corporate performance, including achievements and progress made by the company outside of the corporate goals. In assessing individual performance, the compensation committee evaluates corporate performance in the areas of each officer's responsibility and relies on the chief executive officer's evaluation of each officer. The chief executive officer prepares evaluations of the other executives and in doing so compares individual performance to the individual performance goals. The chief executive officer recommends annual executive salary increases, annual stock option awards and bonuses, if any, which are then reviewed and approved by the compensation committee. In the case of the chief executive officer, the compensation committee conducts his individual performance evaluation. During this process, the compensation committee consults with its compensation consultant and, prior to approving compensation for executive officers, consults with the board of directors.

The corporate performance goals adopted by the compensation committee for 2010 were:

Clinical Development

- Advance clinical development of IMO-2125 through:
 - completion of dosing of 4-week Phase 1 trial in HCV null responder patients,
 - initiation of dosing of 12-week Phase 1b trial in combination with ribavirin in HCV null responder patients,
 - completion of dosing of 4-week Phase 1 trial in treatment naïve HCV patients and
 - selection of dosage for future trial in treatment naïve HCV patients.

- Advance clinical development of IMO-3100 through:
 - initiation of Phase 1 single escalating dose trial in healthy subjects,
 - initiation of dosing of 4-week Phase 1 trial in healthy subjects and
 - design of initial clinical trial in selected autoimmune disease.
- Obtain access to preclinical and clinical data from Novartis and outline development strategy for advancing IMO-2134 in asthma/allergy.

Discovery

- Evaluate and select lead TLR7/TLR8 agonist compound in hematological cancer and outline development strategy.
- Create and characterize novel TLR7/TLR9 antagonists in preclinical assays in autoimmune and inflammatory diseases.
- Evaluate TLR7/TLR9 antagonists and TLR9 agonists in preclinical models of hyperlipidemia and infectious diseases.

Corporate

- Support existing strategic and academic collaborators.
- Generate cash requirements through financing and/or business development activities so that by the end of 2010 the company has two years' worth of cash

These corporate performance goals were designed to be challenging goals that the compensation committee believed could be reasonably achieved in 2010.

For all executives, annual base salary increases are implemented during the first calendar quarter of the year. Any annual stock option awards and bonuses are granted as determined by the compensation committee, typically in the fourth quarter of the applicable year.

The compensation committee does not plan to approve annual equity grants to employees, including named executive officers, at a time when our company is in possession of material non-public information. We do not award stock options to named executive officers concurrently with the release of material non-public information.

Elements of Compensation

The compensation program for our executives generally consists of five elements based upon the foregoing objectives:

- base salary;
- annual cash bonuses;
- stock option awards;
- health care and life insurance and other employee benefits; and
- severance and change in control benefits.

The value of our variable, performance-based compensation is split between short-term compensation in the form of a cash bonus and long-term compensation in the form of stock option awards that vest over time. The annual cash bonus is intended to provide an incentive to our executives to achieve near-term operational objectives. The stock option awards provide an incentive for our executives to achieve longer-term strategic business goals, which should lead to higher stock prices and increased stockholder value. We have not had any formal or informal policy or target for allocating compensation between long-term and short-term compensation, between cash and non-cash compensation or among the different forms of non-cash compensation. Instead, the compensation committee, after

reviewing industry information and our cash resources, determines subjectively what it believes to be the appropriate level and mix of the various compensation components.

We do not have any non-equity incentive plans, defined benefit pension plans or non-qualified deferred compensation plans.

We entered into a multi-year employment agreement with our chief executive officer, Dr. Agrawal, in October 2005, and an employment offer letter with Louis J. Arcudi, III, our Chief Financial Officer in November 2007. Both of these agreements were amended in 2008 to ensure compliance with Section 409A of the Internal Revenue Code of 1986, as amended. These agreements are described below under the caption "Agreements with our Named Executive Officers."

Base Salary

In establishing base salaries for our executive officers, our compensation committee reviews the market compensation data presented by Radford, considers historic salary levels of the executive officer and the nature of the executive officer's responsibilities, compares the executive officer's base salary with those of our other executives and considers the executive officer's performance. The compensation committee also considers the challenges involved in hiring and retaining managerial personnel and scientific personnel with extensive experience in the chemistry of DNA and RNA and its application to toll-like receptors because of the new nature of this technology, general economic conditions and our financial condition. In assessing the executive officer's performance, the compensation committee considers the executive officer's role in the achievement of the annual corporate goals, as well as the performance evaluation prepared by our chief executive officer with respect to such executive officer. The compensation committee considers such evaluation as a means of informing the committee's decision as to whether the executive officer's performance was generally consistent with the company's expectations.

In setting base salaries for 2010, which the compensation committee did in December 2009, the compensation committee reviewed the market compensation data presented by Radford. After reviewing such data and taking into consideration the other matters described in the preceding paragraph, the compensation committee determined that, with the exception of Dr. Agrawal and Mr. Arcudi, each of the executive officers' annual base salary was competitive with the 50th percentile reflected in the market compensation data. The compensation committee recognized that Dr. Agrawal's base salary was competitive with the 75th percentile, reflecting his tenure and longstanding senior leadership role at the company. As a result, the compensation committee increased base salaries for 2010 by approximately 4% for our named executive officers, with the exception of Mr. Arcudi, reflecting a cost of living adjustment. Because the market compensation data indicated that Mr. Arcudi's base salary was significantly lower than the 50th percentile for chief financial officers, the compensation committee determined to increase Mr. Arcudi's base salary to an amount competitive with the 50th percentile over a period of two years. As a result, the compensation committee increased Mr. Arcudi's 2010 base salary by 11.5% compared to 2009.

In December 2010, the compensation committee set salaries for 2011. In setting these salaries, the committee reviewed market compensation data presented by Radford and increased salaries for all named executive officers for 2011 by 3.5%, reflecting a cost of living adjustment. Because the market compensation data indicated that Mr. Arcudi's base salary was competitive with the 50th percentile, the compensation committee did not make any additional adjustment to Mr. Arcudi's salary.

Cash Bonuses

The compensation committee generally structures cash bonuses by linking them to the achievement of the annual corporate goals, corporate performance outside of the corporate goals and individual performance. The amount of the bonus paid, if any, varies among the executive officers depending on individual performance and their contribution to the achievement of our annual corporate goals and corporate performance generally. The compensation committee reviews and assesses corporate goals and individual performance by executive officers and considers the reasons why specific goals have been achieved or have not been achieved. While achievement against the applicable corporate goals is given substantial weight in connection with the determination of annual bonus,

consideration is also given to an evaluation of our named executive officers' individual performance based on analysis of achievement of individual performance goals as well as the following subjective criteria:

- leadership,
- management,
- judgment and decision making skills,
- results orientation and
- communication.

No formula is applied to the analysis of the achievement of corporate goals or individual goals by executive officers.

In December 2009, the compensation committee determined to adopt bonus targets for all of its executive officers for 2010 and future years. In setting these bonus targets, the compensation committee considered the market compensation data presented by Radford, the roles of each officer, the recommendations of the chief executive officer and the terms of Dr. Agrawal's employment agreement, under which we have agreed to pay him a bonus of between 20% and 70% of his base salary. The compensation committee set the following bonus targets for 2010: Dr. Agrawal's bonus target was set at 70% of his base salary, Mr. Arcudi's bonus target was set at 27% of his base salary, Dr. Sullivan's bonus target was set at 25% of his base salary and Dr. Arbeit's bonus target was set at 25% of his base salary. Dr. Agrawal's bonus target was set at the maximum of the range contained in his employment agreement. The 2010 bonus targets for the other named executive officers were set near, but slightly below, the 50th percentile of the market compensation data with the intention that 2011 bonus targets would be competitive with the 50th percentile of the market compensation data and that the percentages used for the 2010 bonus targets would be no less than the percentage of base salary paid out to the named executive officers as a bonus for 2009. For 2011, the committee maintained Dr. Agrawal's bonus target percentage at 70% and set the bonus target percentage for all other named executive officers at 30%, which is competitive with the 50th percentile as reflected in the market compensation data.

In establishing bonuses for 2010, the compensation committee considered the company's performance against the 2010 corporate goals, as well as other company achievements during the year, and determined that named executive officers should receive bonuses equal to 70% of their bonus targets. In making this determination, the compensation committee did not apply any formula or apply specific weights to any of the goals. Instead, the compensation committee determined the 70% portion of bonus target after considering that most of the 2010 corporate goals were achieved, but that the company did not meet the 2010 corporate goals of initiating dosing of a 12-week Phase 1b trial of IMO-2125 in combination with ribavirin in HCV null responder patients as we changed our development strategy for IMO-2125 to focus on treatment naïve HCV patients, obtaining access to the IMO-2134 data from Novartis in 2010 and having two years' of cash at December 31, 2010, and that additional corporate objectives outside the corporate goals, such as the advancement of our TLR3 agonist program and our gene silencing oligonucleotides program, had been achieved. As a result, the compensation committee awarded the named executive officers 70% of their respective bonus targets, as follows:

Name	2010 Bonus	
	Target	Actual
Sudhir Agrawal, D. Phil.	\$371,000	\$260,000
Louis J. Arcudi, III	\$ 78,300	\$ 55,000
Timothy M. Sullivan, Ph.D.	\$ 72,275	\$ 51,000
Robert D. Arbeit, M.D.	\$ 72,525	\$ 51,000

Equity Compensation

Our equity award program is the primary vehicle for offering long-term incentives to our executive officers, including our named executive officers. We believe that equity awards provide our executives with a strong link to our long-term performance, create an ownership culture and help to align the interest of our named executive

officers and our stockholders. Equity grants are intended as both a reward for contributing to the long-term success of our company and an incentive for future performance. The vesting feature of our equity awards is intended to further our goal of executive retention by providing an incentive to our named executive officers to remain in our employ during the vesting period. In determining the size of equity awards to our executives, our compensation committee considers the achievement of our annual corporate goals, individual performance, the applicable executive officer's previous awards, including the exercise price of such previous awards, the recommendations of management and the market compensation data presented by Radford.

Our equity awards have typically taken the form of stock options. However, under the terms of our stock incentive plan, we may grant, and from time to time we have granted, equity awards other than stock options, such as restricted stock awards, stock appreciation rights and restricted stock units.

The compensation committee approves all equity awards to our executive officers. The compensation committee reviews all components of the executive officer's compensation when determining annual equity awards to ensure that an executive officer's total compensation conforms to our overall philosophy and objectives.

The compensation committee typically makes initial stock option awards to new executive officers upon commencement of their employment and annual stock option awards thereafter. In general, our option awards vest over four years in 16 equal quarterly installments. The exercise price of stock options equals the fair market value of our common stock on the date of grant, which is typically equal to the closing price of our common stock on NASDAQ on the date of grant.

Equity awards to our named executive officers are typically granted annually in conjunction with the annual performance review. This review typically occurs at the regularly scheduled meeting of the compensation committee held in the fourth quarter of each year.

In December 2010, the compensation committee made annual awards for 2010 to each of our executive officers. In determining these option awards, the compensation committee reviewed the market compensation data presented by Radford regarding annual option grants on the basis of percentage ownership (as opposed to market value), and considered corporate and individual performance during 2010, the value of options then held by executive officers and the recommendations of our chief executive officer. The compensation committee elected to grant option awards equal to the mid-point between the 50th percentile and the 75th percentile of the market compensation data presented by Radford with certain adjustments to reflect experience, duties and responsibilities at the company. As a result, the committee granted Dr. Agrawal an option to purchase 231,000 shares, Mr. Arcudi an option to purchase 95,000 shares, Dr. Sullivan an option to purchase 72,500 shares and Dr. Arbeit an option to purchase 72,500 shares.

Benefits and Other Compensation

We maintain broad-based benefits that are provided to all employees, including health and dental insurance, life and disability insurance and a 401(k) plan. During 2010, consistent with our prior practice, we matched 50% of the employee contributions to our 401(k) plan up to a maximum of 6% of the participating employee's annual salary, resulting in a maximum company match of 3% of the participating employee's annual salary, and subject to certain additional statutory dollar limitations. Named executive officers are eligible to participate in all of our employee benefit plans, in each case on the same basis as other employees and subject to any limitations in such plans. Each of our named executive officers contributed to our 401(k) plan and their contributions were matched by us.

In December 2010, our board of directors adopted a retirement policy to address the treatment of options in the event of an employee's retirement that applies to all employees, including all officers. For purposes of this policy, an employee of Idera will be deemed to have retired if the employee terminates his or her employment with Idera, has been an employee of Idera for more than 10 years and is older than 65 upon termination of employment. Under the policy, if an employee retires, then

- all outstanding options held by the employee will automatically vest in full and
- the period during which the employee may exercise the options will be extended to the expiration of the term of the option under the plan.

Our board adopted this policy for our employees in recognition of the importance of stock options to the compensation of employees and in order that our employees get the full benefit of the options held by them if he or she retires after making 10 years of contributions to the company.

We occasionally pay relocation expenses for newly hired executive officers who we require to relocate as a condition to their employment by us. We also occasionally pay local housing expenses and travel costs for executives who maintain a primary residence outside of a reasonable daily commuting range to our headquarters. We believe that these are typical benefits offered by comparable companies to executives who are asked to relocate and that we would be at a competitive disadvantage in trying to attract executives who would need to relocate in order to work for us if we did not offer such assistance. In 2010, Dr. Sullivan received reimbursement for local housing expenses and travel costs because Dr. Sullivan maintains a primary residence outside of a reasonable daily commuting range to our headquarters.

Our named executive officers also may participate in our employee stock purchase plan, which is generally available to all employees who work over 20 hours per week, including our executive officers so long as they own less than 5% of our common stock. Three of our named executive officers, Mr. Arcudi, Dr. Sullivan and Dr. Arbeit, participated in the employee stock purchase plan during 2010.

Severance and Change-in-Control Benefits

We currently have an employment agreement with Dr. Agrawal and an employment offer letter with Mr. Arcudi under which we agreed to provide benefits in the event of the termination of their employment under specified circumstances. We have provided more detailed information about these benefits, along with estimates of their value under various circumstances, under the captions "Agreements with our Named Executive Officers" and "Potential Payments Upon Termination or Change in Control" below.

We believe providing severance and/or change-in-control benefits as a component of our compensation structure that can help us compete for executive talent and attract and retain highly talented executive officers whose contributions are critical to our long-term success. After reviewing the practices of companies in general industry surveys provided by our independent compensation consultant, we believe that our severance and change-in-control benefits are appropriate.

Compliance with Internal Revenue Code Section 162(m).

Section 162(m) of the Internal Revenue Code generally disallows a tax deduction to public companies for certain compensation in excess of \$1 million per person paid to our chief executive officer and the other officers whose compensation is required to be disclosed under the Exchange Act by reason of being among our four most highly compensated officers. Certain compensation, including qualified performance-based compensation, will not be subject to the deduction limit if specified requirements are met. In general, we structure and administer our stock option plans in a manner intended to comply with the performance-based exception to Section 162(m). Nevertheless, there can be no assurance that compensation attributable to future awards granted under its plans will be treated as qualified performance-based compensation under Section 162(m). In addition, the compensation committee reserves the right to use its judgment to authorize compensation payments that may be subject to the limit when the compensation committee believes such payments are appropriate and in the best interests of our company and our stockholders.

Compensation Committee Report

The compensation committee has reviewed and discussed the Compensation Discussion and Analysis required by Item 402(b) of Regulation S-K with our management. Based on this review and discussion, the compensation committee recommended to our board of directors that the Compensation Discussion and Analysis be included in this proxy statement.

By the compensation committee of the board of directors,

Youssef El Zein, *Chairman*
 Malcolm MacCoss
 Hans Mueller
 Eve E. Slater

Summary Compensation Table

The table below summarizes compensation paid to or earned by our named executive officers. Our named executive officers have no stock awards, defined benefit pension or non-qualified compensation to report for 2010, 2009 and 2008.

Summary Compensation Table For Fiscal Year 2010

Name and Principal Position	Year	Salary	Bonus	Option Awards	Non-Equity Plan Compensation	All Other Compensation	Total
		(\$)	(\$)	(\$)(1)	(2)	(\$)(3)	(\$)
Sudhir Agrawal, D. Phil., Chairman, President and Chief Executive Officer	2010	\$530,000	—	\$ 362,795	\$ 260,000	\$ 29,710	\$1,182,505
	2009	\$510,000	\$357,000	\$ 892,350	—	\$ 26,765	\$1,786,115
	2008	\$485,000	\$340,000	\$ 1,901,613	—	\$ 24,658	\$2,751,271
Louis J. Arcudi, III Senior Vice President of Operations, Chief Financial Officer, Treasurer and Secretary	2010	\$290,000	—	\$ 148,476	\$ 55,000	\$ 29,092	\$ 522,568
	2009	\$260,000	\$ 70,000	\$ 327,195	—	\$ 25,943	\$ 683,138
	2008	\$230,000	\$110,000(4)	\$ 191,020	—	\$ 23,319	\$ 554,339
Timothy M. Sullivan, Ph.D. Vice President, Development Programs and Alliance Management	2010	\$289,120	—	\$ 113,247	\$ 51,000	\$ 45,893	\$ 499,260
	2009	\$278,000	\$ 65,000	\$ 208,215	—	\$ 40,256	\$ 591,471
	2008	\$265,000	\$ 55,000	\$ 356,445	—	\$ 39,542	\$ 715,987
Robert D. Arbeit, M.D. Vice President, Clinical Development	2010	\$290,100	—	\$ 112,634	\$ 51,000	\$ 11,766	\$ 465,500

- (1) Represents the aggregate grant date fair value of options granted to each of the named executive officers as computed in accordance with ASC 718. These amounts do not represent the actual amounts paid to or realized by the named executive officers. See Note 2(k) of the financial statements in our annual report on Form 10-K for the year ended December 31, 2010 regarding assumptions we made in determining the fair value of option awards. Includes an increase in fair value of option awards granted prior to 2010 to each named executive officer as a result of the adoption in 2010 of the policy regarding the treatment of employee stock options upon their retirement as follows: Dr. Agrawal, \$5,022; Mr. Arcudi, \$1,340; Dr. Sullivan, \$959 and Dr. Arbeit, \$346.
- (2) Represents bonuses paid under our cash bonus program based upon the achievement of corporate goals and the specified bonus target for each named executive officer. Please refer to “Compensation Discussion and Analysis — Elements of Compensation — Cash Bonuses” for a full description of these bonus awards.

(3) “All Other Compensation” for 2010 for each of the named executive officers includes the following:

	<u>Dr. Agrawal</u>	<u>Mr. Arcudi</u>	<u>Dr. Sullivan</u>	<u>Dr. Arbeit</u>
Premiums paid by us for all insurance plans	\$ 22,360	\$ 21,742	\$ 21,755	\$ 4,416
Company match on 401(k)	\$ 7,350	\$ 7,350	\$ 7,350	\$ 7,350
Reimbursement for housing and travel expenses	—	—	\$ 16,788	—

(4) Includes a signing bonus of \$50,000 that we agreed to pay Mr. Arcudi in two equal installments on January 31, 2008 and May 30, 2008 pursuant to his employment offer letter.

See “Compensation Discussion and Analysis” above for a discussion of annual cash bonuses and the amount of salary and bonus in proportion to total compensation.

Agreements with our Named Executive Officers

We have entered into agreements with certain of our named executive officers, as discussed below, that provide benefits to the executives upon their termination of employment in certain circumstances or under which we have agreed to specific compensation elements. Other than as discussed below, our named executive officers do not have employment agreements with us, other than standard employee confidentiality agreements, and are at-will employees. In December 2008, in order to ensure compliance with Section 409A of the Internal Revenue Code, we entered into amendments to our employment agreements with Dr. Agrawal and with Mr. Arcudi. The amendments did not affect the scope or amount of benefits Dr. Agrawal and Mr. Arcudi are entitled to receive under their respective agreements.

Sudhir Agrawal, D. Phil.

We are a party to an employment agreement with Dr. Agrawal, our chairman, president and chief executive officer. The agreement had an initial three-year term that is automatically extended for an additional year on October 19th of each year during the term of the agreement unless either party provides prior written notice to the other that the term of the agreement is not to be extended. As a result, on each October 19th, the term of the agreement, as extended will be three years. On October 19, 2010, the term was extended from October 19, 2012 to October 19, 2013.

Under the agreement, Dr. Agrawal is currently entitled to receive an annual base salary of \$549,000 or such higher amount as our compensation committee or our board of directors may determine, and an annual bonus in an amount equal to between 20% and 70% of his base salary, as determined by the compensation committee or our board of directors.

If we terminate Dr. Agrawal’s employment without cause or if he terminates his employment for good reason, as such terms are defined in the agreement, we have agreed to:

- continue to pay Dr. Agrawal his base salary as severance for a period ending on the earlier of the final day of the term of the agreement in effect immediately prior to such termination and the second anniversary of his termination date;
- pay Dr. Agrawal a lump sum cash payment equal to the pro rata portion of the annual bonus that he earned in the year preceding the year in which his termination occurs;
- continue to provide Dr. Agrawal with healthcare, disability and life insurance benefits for a period ending on the earlier of the final day of the term of the agreement in effect immediately prior to the termination date and the second anniversary of the termination date, except to the extent another employer provides Dr. Agrawal with comparable benefits;
- accelerate the vesting of any stock options or other equity incentive awards previously granted to Dr. Agrawal as of the termination date to the extent such options or equity incentive awards would have vested had he continued to be an employee until the final day of the term of the agreement in effect immediately prior to such termination; and
- permit Dr. Agrawal to exercise any vested stock options until the second anniversary of the termination date.

If Dr. Agrawal's employment is terminated by him for good reason or by us without cause in connection with, or within one year after, a change in control, we have agreed to provide Dr. Agrawal with all of the items listed above, except that in lieu of the severance amount described above, we will pay Dr. Agrawal a lump sum cash payment equal to his base salary multiplied by the lesser of the aggregate number of years or portion thereof remaining in his employment term and two years. We have also agreed that if we execute an agreement that provides for our company to be acquired or liquidated, or otherwise upon a change in control, all unvested stock options held by Dr. Agrawal will vest in full.

If required by Section 409A of the Internal Revenue Code, the payments we are required to make to Dr. Agrawal for the first six months following termination of his employment under his agreement will be made as a lump sum on the date that is six months and one day following such termination.

Our employment agreement with Dr. Agrawal provides that if all or a portion of the payments made under the agreement are subject to the excise tax imposed by Section 4999 of the Code, or a similar state tax or assessment, we will pay him an amount necessary to place him in the same after-tax position as he would have been had no excise tax or assessment been imposed. Any amounts paid pursuant to the preceding sentence will also be increased to the extent necessary to pay income and excise tax on those additional amounts.

In the event of Dr. Agrawal's death or the termination of his employment due to disability, we have agreed to pay Dr. Agrawal or his beneficiary a lump sum cash payment equal to the pro rata portion of the annual bonus that he earned in the year preceding his death or termination due to disability. Additionally, any stock options or other equity incentive awards previously granted to Dr. Agrawal and held by him on the date of his death or termination due to disability will vest as of such date to the extent such options or equity incentive awards would have vested had he continued to be an employee until the final day of the term of the employment agreement in effect immediately prior to his death or termination due to disability. Dr. Agrawal or his beneficiary will be permitted to exercise such stock options until the second anniversary of his death or termination of employment due to disability.

Dr. Agrawal has agreed that during his employment with us and for a one-year period thereafter, he will not hire or attempt to hire any of our employees or compete with us.

Louis J. Arcudi, III

In connection with our hiring of Mr. Arcudi, we agreed in his employment offer letter, if we terminate Mr. Arcudi's employment without cause, to pay Mr. Arcudi three months severance and continue his medical and dental insurance for three months. Our obligation to make the severance payments and provide continuation of benefits is contingent upon Mr. Arcudi's execution of a release in a form reasonably acceptable to us. If required by Section 409A of the Internal Revenue Code, the payments we are required to make to Mr. Arcudi in the first six months following the termination of his employment under his agreement will be made as a lump sum on the date that is six months and one day following such termination.

Grants of Plan-Based Awards

The following table sets forth information regarding estimated possible payouts under non-equity incentive plan awards and stock options granted to each named executive officer during 2010.

Grants of Plan-Based Awards for Fiscal Year 2010

Name	Grant Date	Estimated Possible Payouts Under Non-Equity Incentive Plan Awards \$(1)(Target)	All Other Option Awards: Number of Securities Underlying Options (#)(2)	Exercise or Base Price of Option Awards (\$/Sh)	Grant Date Fair Value of Option Awards\$(3)
Sudhir Agrawal, D. Phil.	12/27/2010	—	231,000	\$ 2.74	\$ 362,795
	N/A	\$ 371,000	—	—	—
Louis J. Arcudi, III	12/27/2010	—	95,000	\$ 2.74	\$ 148,476
	N/A	\$ 78,300	—	—	—
Timothy M. Sullivan, Ph.D.	12/27/2010	—	72,500	\$ 2.74	\$ 113,247
	N/A	\$ 72,275	—	—	—
Robert D. Arbeit, M.D.	12/27/2010	—	72,500	\$ 2.74	\$ 112,634
	N/A	\$ 72,525	—	—	—

- (1) Represents the cash bonus payable at target for 2010 assuming full achievement of the corporate goals. Please refer to “Compensation Discussion and Analysis — Elements of Compensation — Cash Bonuses” for the actual amounts of bonuses paid in 2010 and a full description of these bonus awards.
- (2) The stock options granted to each of the named executive officers listed above were granted pursuant to our 2008 Stock Incentive Plan. The term of these options is ten years. The stock options vest over four years from the date of grant, in 16 equal quarterly installments. See “Agreements with our Named Executive Officers” for further information about acceleration of vesting of Dr. Agrawal’s options in the event of the termination of his employment and/or a change of control.
- (3) Represents the aggregate grant date fair value of option awards made to named executive officers in 2010 as computed in accordance with ASC 718. These amounts do not represent the actual amounts paid to or realized by the named executive officers during 2010. See Note 2(k) of the financial statements in our annual report on Form 10-K for the year ended December 31, 2010 regarding assumptions we made in determining the fair value of option awards. Includes an increase in fair value of option awards granted prior to 2010 to each named executive officer as a result of a modification in 2010 of the policy regarding the treatment of employees’ stock options upon their retirement as follows: Dr. Agrawal, \$5,022; Mr. Arcudi, \$1,340, Dr. Sullivan, \$959 and Dr. Arbeit, \$346.

Outstanding Equity Awards At Fiscal Year-End

The following table sets forth information regarding the outstanding stock options held by our named executive officers as of December 31, 2010. None of our named executive officers held shares of unvested restricted stock as of December 31, 2010.

Outstanding Equity Awards At Fiscal Year-End for 2010

Name	Option Awards			
	Number of Securities Underlying Unexercised Options (#) Exercisable	Number of Securities Underlying Unexercised Options (#) Unexercisable	Option Exercise Price(\$)	Option Expiration Date
Sudhir Agrawal, D. Phil.(1)	62,500	—	\$ 8.50	1/1/2011
	243,751	—	\$ 4.50	3/28/2011
	47,718	—	\$ 8.50	4/2/2011
	288,750	—	\$ 6.60	7/25/2011
	31,250	—	\$ 4.16	11/30/2014
	125,000	—	\$ 4.48	5/12/2015
	50,000	—	\$ 5.76	6/1/2015
	37,500	—	\$ 4.24	12/15/2015
	125,000	—	\$ 5.10	12/14/2016
	54,687(2)	7,813(2)	\$ 7.05	6/25/2017
	85,937(3)	39,063(3)	\$13.28	1/2/2018
	100,000(4)	100,000(4)	\$ 8.70	12/16/2018
	75,000(5)	225,000(5)	\$ 5.24	12/23/2019
—	231,000(6)	\$ 2.74	12/27/2020	
Louis J. Arcudi, III	80,000	—	\$12.25	12/3/2017
	20,000(4)	20,000(4)	\$ 8.70	12/16/2018
	27,500	82,500(5)	\$ 5.24	12/23/2019
	—	95,000(6)	\$ 2.74	12/27/2020
Timothy M. Sullivan, Ph.D.	7,500	—	\$11.28	3/25/2012
	3,750	—	\$ 6.24	12/12/2012
	5,625	—	\$ 8.96	12/16/2013
	58,750	—	\$ 4.16	11/30/2014
	12,500	—	\$ 4.24	12/15/2015
	20,000	—	\$ 5.10	12/14/2016
	17,187(3)	7,813(3)	\$13.28	1/2/2018
	17,500(4)	17,500(4)	\$ 8.70	12/16/2018
17,500(5)	52,500(5)	\$ 5.24	12/23/2019	
—	72,500(6)	\$ 2.74	12/27/2020	
Robert D. Arbeit, M.D.	12,500(7)	27,500(7)	\$ 6.43	8/3/2019
	4,250(5)	12,750(5)	\$ 5.24	12/23/2019
	—	72,500(6)	\$ 2.74	12/27/2020

(1) See “Agreements with our Named Executive Officers” for further information about acceleration of vesting of Dr. Agrawal’s options in the event of the termination of his employment and/or a change of control.

(2) 25% of the shares subject to this option vest on June 25, 2008, the first anniversary of the date of grant, and the remaining 75% vest in 12 equal quarterly installments commencing on September 25, 2008 until June 25, 2011.

- The total number of shares subject to the option equals the sum of the figures in the exercisable and unexercisable columns.
- (3) 6.25% of the shares subject to this option vest quarterly from the date of grant until January 2, 2012 when all shares will be vested. The total number of shares subject to the option equals the sum of the figures in the exercisable and unexercisable columns.
 - (4) 6.25% of the shares subject to this option vest quarterly from the date of grant until December 16, 2012 when all shares will be vested. The total number of shares subject to the option equals the sum of the figures in the exercisable and unexercisable columns.
 - (5) 6.25% of the shares subject to this option vest quarterly from the date of grant until December 23, 2013 when all shares will be vested. The total number of shares subject to the option equals the sum of the figures in the exercisable and unexercisable columns.
 - (6) 6.25% of the shares subject to this option vest quarterly from the date of grant until December 27, 2014 when all shares will be vested. The total number of shares subject to the option equals the sum of the figures in the exercisable and unexercisable columns.
 - (7) 6.25% of the shares subject to this option vest quarterly from the date of grant until August 3, 2013 when all shares will be vested. The total number of shares subject to the option equals the sum of the figures in the exercisable and unexercisable columns.

Option Exercises and Stock Vested

The following table sets forth information regarding the vesting of stock held by our named executive officers during 2010. None of the named executive officers exercised options in 2010.

Stock Vested For Fiscal Year 2010

Name	Number of Shares Acquired on Vesting of Stock Awards (#)	Value Realized on Vesting of Stock Awards (\$)(1)
Sudhir Agrawal, D. Phil	20,833	\$ 73,749
Louis J. Arcudi, III	—	—
Timothy M. Sullivan, Ph.D.	—	—
Robert D. Arbeit, M.D.	—	—

- (1) Value realized on vesting is determined by multiplying the number of shares that vested by the per-share closing price of our common stock on the vesting date.

Potential Payments under Termination or Change in Control

We have an employment agreement with Dr. Agrawal that provides for severance benefits and acceleration of vesting of equity awards following a termination of his employment with our company. Additionally, Mr. Arcudi's employment offer letter provides for severance benefits in certain circumstances. These agreements are described above under the caption "Agreements with our Named Executive Officers." Neither Dr. Sullivan nor Dr. Arbeit is entitled to any severance benefits following a termination of his employment with our company.

Termination of Employment Not in Connection with or following a Change in Control

The following table sets forth the estimated potential benefits that our named executive officers would be entitled to receive upon their termination of employment with our company (other than a termination in connection with or following a change in control of the company) if that the named executive officers' employment terminated on December 31, 2010. This table represents estimates only and does not necessarily reflect the actual amounts that

would be paid to our named executive officers, which would only be known at the time that they become eligible for payment following their termination.

**Termination of Employment Not In Connection With or Following
Change in Control**

Name	Severance Payments (\$)	Bonus Amount (\$)	Value of Accelerated Vesting of Stock Options (\$)	Value of Continuation of Benefits \$(1)	Total (\$)
Sudhir Agrawal, D. Phil.(2)	\$1,060,000	\$ 357,000	\$ 17,325(3)	\$ 48,429	\$1,482,754
Louis J. Arcudi, III(4)	\$ 72,500	—	—	\$ 5,896	\$ 78,396
Timothy M. Sullivan, Ph.D.	—	—	—	—	—
Robert D. Arbeit, M.D.	—	—	—	—	—

- (1) This amount represents the estimated cost to us of continuing the named executive officer's healthcare, disability, life and dental insurance benefits for the full severance period applicable to such named executive officer based on our costs for such benefits at December 31, 2010.
- (2) Following the termination of Dr. Agrawal's employment by him for good reason or by us other than for death, disability or cause, Dr. Agrawal will be entitled to severance payments, a pro rata portion of his bonus for the prior year, benefits continuation and acceleration of vesting of his equity awards to the extent such options or equity incentive awards would have vested had he continued to be an employee until the final day of the term of the agreement in effect immediately prior to such termination. Upon termination of Dr. Agrawal's employment due to death or disability, we have agreed to pay a pro rata portion of his bonus for the prior year and to accelerate the vesting of his equity awards to the extent such options or equity incentive awards would have vested had he continued to be an employee until the final day of the term of the agreement in effect immediately prior to such termination. See "Agreements with our Named Executive Officers" for further information about acceleration of vesting and severance payments in such circumstances.
- (3) This amount equals the difference between the exercise price of each "in the money" option and \$2.89, the closing price of our common stock on December 31, 2010, multiplied by the number of "in the money" options that would vest as a result of the accelerated vesting provided for under Dr. Agrawal's employment agreement.
- (4) Severance payments and benefits continuation will only be paid to Mr. Arcudi following termination by us without cause. See "Agreements with our Named Executive Officers" for further information about our agreement with Mr. Arcudi.

Termination of Employment In Connection With or Following Change in Control

Under Dr. Agrawal's employment agreement, he would be entitled to receive the estimated benefits shown in the table below if his employment were terminated without cause or he resigned for good reason in connection with or within one year after a change in control. None of our other named executives is entitled to any severance or other benefits if his or her employment is terminated in connection with or following a change of control. These disclosed amounts are estimates only and do not necessarily reflect the actual amounts that would be paid to Dr. Agrawal, which would only be known at the time that he becomes eligible for payment and would only be payable if a change in control were to occur and his employment was terminated or he resigned for good reason. The table below reflects the amount that could be payable under Dr. Agrawal's employment agreement, assuming that the change in control occurred on December 31, 2010 and Dr. Agrawal's employment was immediately terminated. Under such hypothetical, no payments made in connection with a change-in-control of our company would be subject to the excise tax imposed by Section 4999 of the Code; as a result, we would not be required to make any gross-up payments to Dr. Agrawal.

**Termination of Employment In Connection With or Following
Change in Control**

Name	Severance Payments (\$)	Bonus Amount (\$)	Value of Accelerated Vesting of Stock Options \$(2)	Value of Continuation of Benefits \$(3)	Total (\$)
Sudhir Agrawal, D. Phil(1)	\$1,060,000	\$ 357,000	\$ 34,650	\$ 48,429	\$1,500,079

- (1) Following the termination of Dr. Agrawal's employment in connection with or following a change in control by him for good reason or by us other than for death, disability or cause, Dr. Agrawal will be entitled to a lump sum severance payment, a pro rata portion of his bonus for the prior year, benefits continuation and full acceleration of vesting of his option awards. See "Agreements with our Named Executive Officers" for further information about acceleration of vesting and severance payments in such circumstances.
- (2) This amount equals the difference between the exercise price of each "in the money" option and \$2.89, the closing price of our common stock on December 31, 2010, multiplied by the number of "in the money" options that would vest as a result of the accelerated vesting provided for under the employment agreement. Upon a change of control, the vesting of all Dr. Agrawal's unvested options will accelerate.
- (3) Represents the estimated cost to us of continuing Dr. Agrawal's healthcare, disability, life and dental insurance benefits for the applicable severance period based on our costs for such benefits at December 31, 2010.

EQUITY COMPENSATION PLAN INFORMATION

The following table provides information about our common stock that may be issued upon exercise of options, warrants and rights under all of our equity compensation plans as of December 31, 2010.

Plan Category	Number of Securities to be Issued Upon Exercise of Outstanding Options, Warrants and Rights (a)	Weighted-Average Exercise Price of Outstanding Options, Warrants and Rights (b)	Number of Securities Remaining Available For Future Issuance Under Equity Compensation Plans (Excluding Securities Reflected in Column (a)) (c)
Equity compensation plans approved by stockholders(1)	5,081,017	\$ 6.39	1,010,041
Equity compensation plans not approved by stockholders(2)	324,662	\$ 6.81	—
Total	5,405,679	\$ 6.41	1,010,041

(1) Consists of our:

- 1995 Employee Stock Purchase Plan;
- 1995 Director Stock Option Plan;
- 1997 Stock Incentive Plan;
- 2005 Stock Incentive Plan; and our
- 2008 Stock Incentive Plan.

Shares are available for future issuance only under our 1995 Employee Stock Purchase Plan and our 2008 Stock Incentive Plan. The share numbers in the table above do not include the increases to the number of shares authorized for issuance under such plans that were approved by the board of directors and are subject to stockholder approval in Proposals Two and Three.

(2) Consists of non-statutory stock option agreements issued to Dr. Agrawal, effective as of April 2, 2001, which expired on April 2, 2011, and July 25, 2001, which expires on July 25, 2011.

Non-Statutory Stock Option Agreements with Dr. Agrawal

In 2001, we granted Dr. Agrawal four non-statutory stock options outside of any equity compensation plan approved by our stockholders, as follows:

- A non-statutory stock option agreement providing for the purchase of 157,500 shares of common stock at an exercise price of \$6.60 per share;

- A non-statutory stock option agreement providing for the purchase of 68,750 shares of common stock at an exercise price of \$6.60 per share;
- A non-statutory stock option agreement providing for the purchase of 62,500 shares of common stock at an exercise price of \$6.60 per share; and
- A non-statutory stock option agreement providing for the purchase of 35,912 shares of common stock at an exercise price of \$8.504 per share.

These options have a term of ten years and are now fully vested. Subject to the terms of Dr. Agrawal’s employment agreement with us, unless we terminate his employment for cause or he voluntarily resigns, these options are exercisable at any time prior to the earlier of the date that is 24 months after the termination of Dr. Agrawal’s relationship with us and the option expiration date. If we terminate Dr. Agrawal’s employment for cause or he voluntarily resigns, then the options will be exercisable at any time prior to the earlier of the date that is 12 months after the termination of Dr. Agrawal’s relationship with us and the option expiration date.

PROPOSAL TWO — AMENDMENT OF 2008 STOCK INCENTIVE PLAN

Our 2008 Stock Incentive Plan (the “2008 Plan”) was adopted by our board of directors in March 2008 and approved by our stockholders in June 2008. The board of directors adopted an amendment to the 2008 Plan on March 15, 2011, to (i) increase the number of shares authorized to be issued pursuant to awards granted under the 2008 Plan from 3,700,000 to 6,000,000 and (ii) adjust the amount that any full-value award will be counted against the number of shares available for issuance under the plan from 1.57 to 1.4 for each share of common stock subject to such full-value award.

As of April 15, 2011, options to purchase 2,763,550 shares of common stock were outstanding under the 2008 Plan, 14,815 shares have been issued in exchange for services provided to us by consultants or issued to non-employee directors in lieu of the payment of cash board fees, and an additional 921,635 shares were reserved for future awards. If stockholders approve the amendment to the 2008 Plan, we will have an additional 2,300,000 shares of common stock available for future issuance under the 2008 Plan.

The only equity compensation plans from which we may issue shares are our 1995 Employee Stock Purchase Plan and our 2008 Plan. The following table summarizes information regarding all of our outstanding equity awards and shares available for future awards under all of our equity plans as of April 15, 2011.

	April 15, 2011*
Total shares of common stock underlying all outstanding options	5,009,979
Weighted-average exercise price of outstanding options	\$ 6.47
Weighted-average remaining contractual life of outstanding options (in years)	7.0
Total shares available for future awards	921,635

* Excludes shares available through our 1995 Employee Stock Purchase Plan.

Our board of directors believes that our future success depends, in large part, upon our ability to maintain a competitive position in attracting, retaining and motivating key personnel. **Accordingly, the board of directors believes adoption of the amendment to the 2008 Plan is in the best interests of our company and our stockholders and recommends that stockholders vote FOR the approval of the amendment to the 2008 Plan.**

Description of the 2008 Plan

The following is a brief summary of the 2008 Plan.

Types of Awards

The 2008 Plan provides for the grant of incentive stock options intended to qualify under Section 422 of the Internal Revenue Code of 1986, as amended (the “Code”), non-statutory stock options, stock appreciation rights,

restricted stock, restricted stock units and other stock-based awards as described below, which are collectively referred to as awards.

Incentive Stock Options and Non-statutory Stock Options. Optionees receive the right to purchase a specified number of shares of common stock at a specified option price and subject to such other terms and conditions as are specified in connection with the option grant. Options may be granted at an exercise price equal to or greater than the fair market value of the common stock on the date of grant. Under present law, however, incentive stock options and options intended to qualify as performance-based compensation under Section 162(m) of the Code may not be granted at an exercise price less than 100% of the fair market value of the common stock on the date of grant (or less than 110% of the fair market value in the case of incentive stock options granted to optionees holding more than 10% of the voting power of our company). Options may not be granted for a term in excess of ten years. The 2008 Plan permits the following forms of payment of the exercise price of options:

- payment by cash, check, wire transfer or in connection with a “cashless exercise” through a broker,
- subject to certain conditions, surrender to us of shares of common stock,
- subject to certain conditions, delivery to us of a promissory note,
- any other lawful means, or
- any combination of these forms of payment.

Stock Appreciation Rights. A Stock Appreciation Right, or SAR, is an award entitling the holder, upon exercise, to receive an amount in common stock or cash or a combination thereof determined by reference to appreciation, from and after the date of grant, in the fair market value of a share of common stock. SARs may be granted independently or in tandem with an option.

Restricted Stock Awards. Restricted Stock awards entitle recipients to acquire shares of common stock, subject to our right to repurchase all or part of such shares from the recipient in the event that the conditions specified in the applicable award are not satisfied prior to the end of the applicable restriction period established for such award.

Restricted Stock Unit Awards. Restricted Stock Unit awards entitle the recipient to receive shares of common stock to be delivered at the time such shares vest pursuant to the terms and conditions established by the board of directors.

Other Stock-Based Awards. Under the 2008 Plan, the board of directors has the right to grant other awards based upon the common stock having such terms and conditions as the board of directors may determine, including the grant of shares based upon certain conditions, the grant of awards that are valued in whole or in part by reference to, or otherwise based on, shares of common stock, and the grant of awards entitling recipients to receive shares of Common Stock to be delivered in the future.

Performance Conditions. The compensation committee may determine, at the time of grant, that a Restricted Stock award, Restricted Stock Unit award or Other Stock-Based award granted to an officer will vest solely upon the achievement of specified performance criteria designed to qualify for deduction under Section 162(m) of the Code. The performance criteria for each such award will be based on one or more of the following measures: (a) earnings per share, (b) return on average equity or average assets with respect to a pre-determined peer group, (c) earnings, (d) earnings growth, (e) revenues, (f) expenses, (g) stock price, (h) market share, (i) return on sales, assets, equity or investment, (j) regulatory compliance, (k) achievement of balance sheet or income statement objectives, (l) total shareholder return, (m) net operating profit after tax, (n) pre-tax or after-tax income, (o) cash flow, (p) achievement of research, development, clinical or regulatory milestones, (q) product sales and (r) business development activities, and may be absolute in their terms or measured against or in relationship to other companies comparably, similarly or otherwise situated. Such performance goals may be adjusted to exclude any one or more of (i) extraordinary items, (ii) gains or losses on the dispositions of discontinued operations, (iii) the cumulative effects of changes in accounting principles, (iv) the write-down of any asset, and (v) charges for restructuring and rationalization programs. Such performance goals: (i) may vary by Participant and may be different for different awards; (ii) may be particular to a Participant or the department, branch, line of business, subsidiary or other unit in

which the Participant works and may cover such period as may be specified by the compensation committee; and (iii) will be set by the compensation committee within the time period prescribed by, and will otherwise comply with the requirements of, Section 162(m).

We believe that disclosure of any further details concerning the performance measures for any particular year may be confidential commercial or business information, the disclosure of which would adversely affect our company.

Transferability of Awards

Except as the board of directors may otherwise determine or provide in an award, awards may not be sold, assigned, transferred, pledged or otherwise encumbered by the person to whom they are granted, either voluntarily or by operation of law, except by will or the laws of descent and distribution or, other than in the case of an incentive stock option, pursuant to a qualified domestic relations order. During the life of the Participant, awards are exercisable only by the Participant.

Eligibility to Receive Awards

Employees, officers, directors, consultants and advisors of our company and its subsidiaries are eligible to be granted awards under the 2008 Plan. Under present law, however, incentive stock options may only be granted to our employees and employees of our subsidiaries.

The maximum number of shares with respect to which awards may be granted to any participant under the 2008 Plan may not exceed 500,000 shares per calendar year. For purposes of this limit, the combination of an option in tandem with SAR is treated as a single award.

Share Counting

An aggregate of 3,700,000 shares are currently authorized for issuance under the 2008 Plan (subject to adjustments for stock splits and the like). Any award that is not a “full-value award” is counted against the number of shares authorized for issuance under the 2008 Plan as one share for each share of common stock subject to such award and any award that is a “full-value award” is currently counted against the number of shares authorized for issuance under the 2008 Plan as 1.57 shares for each one share of common stock subject to such full-value award. “Full-value award” means any restricted stock award or other stock-based award with a per share price or per unit purchase price lower than 100% of fair market value on the date of grant.

For purposes of counting the number of shares available for the grant of awards under the 2008 Plan:

- all shares of common stock covered by independent SARs will be counted against the number of shares available for the grant of awards, except with respect to independent SARs that may be settled in cash only;
- if any award (i) expires or is terminated, surrendered or canceled without having been fully exercised or is forfeited in whole or in part (including as the result of shares of common stock subject to the award being repurchased by us at the original issuance price pursuant to a contractual repurchase right) or (ii) results in any shares of common stock not being issued (including as a result of an independent SAR that was settleable either in cash or in stock actually being settled in cash), the unused shares of common stock covered by the award will again be available for the future grant of awards, except that share counting with respect to incentive stock options will be subject to any limitations under the Code and with respect to independent SARs the full number of shares subject to any stock-settled SAR will be counted against the shares available under the 2008 Plan regardless of the number of shares actually used to settle the SAR upon exercise;
- shares of common stock tendered to us by a participant in the 2008 Plan to purchase shares of common stock upon the exercise of an award or to satisfy tax withholding obligations, including shares retained from the award creating the tax obligation, will not be added back to the number of shares available for the future grant of awards;

- to the extent a share that was subject to an award that counted as one share is returned each applicable share reserve will be credited with one share and to the extent that a share that was subject to an award that counts as 1.57 shares is returned to the 2008 Plan, each applicable share reserve will be credited with 1.57 shares; and
- shares of common stock repurchased by us on the open market using the proceeds from the exercise of an award will not increase the number of shares available for future award grants.

If adopted by stockholders, the amendment to the 2008 Plan would increase the number of shares authorized for issuance under the 2008 Plan from 3,700,000 to 6,000,000 and set a 1.4 ratio for counting full-value award shares against the number of shares authorized for issuance under the 2008 Plan in place of the 1.57 ratio.

Plan Benefits

As of March 31, 2011, approximately 44 persons were eligible to receive awards under the 2008 Plan, including our four named executive officers and eight non-employee directors. The granting of awards under the 2008 Plan is discretionary, and we cannot now determine the number or type of awards to be granted in the future to any particular person or group.

On March 31, 2011, the last reported sale price of our common stock on the NASDAQ Global Market was \$2.64.

Administration

The 2008 Plan is administered by the board of directors. The board of directors has the authority to adopt, amend and repeal the administrative rules, guidelines and practices relating to the 2008 Plan and to interpret the provisions of the 2008 Plan. Pursuant to the terms of the 2008 Plan, the board of directors may delegate authority under the 2008 Plan to one or more committees or subcommittees of the board of directors. The board of directors has authorized the compensation committee to administer certain aspects of the 2008 Plan, including the granting of options to executive officers.

Subject to any applicable limitations contained in the 2008 Plan, the board of directors, the compensation committee, or any other committee to whom the board of directors delegates authority, as the case may be, selects the recipients of awards and determines

- the number of shares of common stock covered by options and the dates upon which such options become exercisable,
- the exercise price of options,
- the duration of options (which may not exceed 10 years), and
- the number of shares of common stock subject to any SAR, restricted stock award, restricted stock unit award or other stock-based awards and the terms and conditions of such awards, including conditions for repurchase, issue price and repurchase price.

The board of directors is required to make appropriate adjustments in connection with the 2008 Plan and any outstanding awards to reflect stock splits, stock dividends, recapitalizations, spin-offs and other similar changes in capitalization. The 2008 Plan also contains provisions addressing the consequences of any reorganization event, which is defined as:

- any merger or consolidation of our company with or into another entity as a result of which all of our common stock is converted into or exchanged for the right to receive cash, securities or other property, or is cancelled; or
- any exchange of all of our common stock for cash, securities or other property pursuant to a share exchange transaction; or
- any liquidation or dissolution of our company.

In connection with a reorganization event, the board of directors or the compensation committee will take any one or more of the following actions as to all or any outstanding awards on such terms as the board or the committee determines:

- provide that awards will be assumed, or substantially equivalent awards will be substituted, by the acquiring or succeeding corporation (or an affiliate thereof);
- upon written notice, provide that all unexercised options or other unexercised awards will terminate immediately prior to the consummation of such reorganization event unless exercised within a specified period following the date of such notice;
- provide that outstanding awards will become exercisable, realizable or deliverable, or restrictions applicable to an award will lapse, in whole or in part prior to or upon such reorganization event;
- in the event of a reorganization event under the terms of which holders of common stock will receive upon consummation thereof a cash payment for each share surrendered in the reorganization event (the “acquisition price”), make or provide for a cash payment to an award holder equal to (A) the acquisition price times the number of shares of common stock subject to the holder’s awards (to the extent the exercise price does not exceed the acquisition price) minus (B) the aggregate exercise price of all the holder’s outstanding awards, in exchange for the termination of such awards;
- provide that, in connection with a liquidation or dissolution of our company, awards will convert into the right to receive liquidation proceeds (if applicable, net of the exercise price thereof); and
- any combination of the foregoing.

The board of directors or the compensation committee may at any time provide that any award will become immediately exercisable in full or in part, free of some or all restrictions or conditions, or otherwise realizable in full or in part, as the case may be.

If any award expires or is terminated, surrendered, canceled or forfeited, the unused shares of common stock covered by such award will again be available for grant under the 2008 Plan, subject, however, in the case of incentive stock options, to any limitations under the Code.

Substitute Options

In connection with a merger or consolidation of an entity with our company or the acquisition by us of property or stock of an entity, the board of directors may grant options in substitution for any options or other stock or stock-based awards granted by such entity or an affiliate thereof. Substitute options may be granted on such terms as the board of directors deems appropriate in the circumstances, notwithstanding any limitations on options contained in the 2008 Plan. Substitute options will not count against the shares reserved for issuance under the 2008 Plan, except as may be required by the Code.

No Repricings without Stockholder Approval

Other than in connection with a stock split or similar change in the number of outstanding shares, the 2008 Plan prohibits the repricing of stock options and stock appreciation rights without the approval of stockholders.

Amendment or Termination

No award may be made under the 2008 Plan after March 17, 2018 but awards previously granted may extend beyond that date. The board of directors may at any time amend, suspend or terminate the 2008 Plan; provided that, to the extent determined by the Board, no amendment requiring stockholder approval under any applicable legal, regulatory or listing requirement will become effective until such stockholder approval is obtained. No award will be made that is conditioned upon stockholder approval of any amendment to the Plan.

If stockholders do not approve the amendment of the 2008 Plan, the amendment will not go into effect. In such event, the board of directors will consider whether to adopt alternative arrangements based on its assessment of our needs.

Federal Income Tax Consequences

The following is a general summary of the United States federal income tax consequences that generally will arise with respect to awards granted under the 2008 Plan. This summary is based on the federal tax laws in effect as of the date of this proxy statement. In addition, this summary assumes that all awards are exempt from, or comply with, the rules under Section 409A of the Code regarding nonqualified deferred compensation. The plan provides that no award will provide for deferral of compensation that does not comply with Section 409A of the Code, unless the board of directors, at the time of grant, specifically provides that the award is not intended to comply with Section 409A. Changes to these laws could alter the tax consequences described below.

Incentive Stock Options

A participant will not have income upon the grant of an incentive stock option. Also, except as described below, a participant will not have income upon exercise of an incentive stock option if the participant has been employed by us or our corporate parent or 50% or more-owned corporate subsidiary at all times beginning with the option grant date and ending three months before the date the participant exercises the option. If the participant has not been so employed during that time, then the participant will be taxed as described below under “Non-statutory Stock Options.” The exercise of an incentive stock option may subject the participant to the alternative minimum tax.

A participant will have income upon the sale of the stock acquired under an incentive stock option at a profit (if sales proceeds exceed the exercise price). The type of income will depend on when the participant sells the stock. If a participant sells the stock more than two years after the option was granted and more than one year after the option was exercised, then all of the profit will be long-term capital gain. If a participant sells the stock prior to satisfying these waiting periods, then the participant will have engaged in a disqualifying disposition and a portion of the profit will be ordinary income and a portion may be capital gain. This capital gain will be long-term if the participant has held the stock for more than one year and otherwise will be short-term. If a participant sells the stock at a loss (sales proceeds are less than the exercise price), then the loss will be a capital loss. This capital loss will be long-term if the participant held the stock for more than one year and otherwise will be short-term.

Non-statutory Stock Options

A participant will not have income upon the grant of a non-statutory stock option. A participant will have compensation income upon the exercise of a non-statutory stock option equal to the value of the stock on the day the participant exercised the option less the exercise price. Upon sale of the stock, the participant will have capital gain or loss equal to the difference between the sales proceeds and the value of the stock on the day the option was exercised. This capital gain or loss will be long-term if the participant has held the stock for more than one year and otherwise will be short-term.

Stock Appreciation Rights

A participant will not have income upon the grant of a stock appreciation right. A participant generally will recognize compensation income upon the exercise of an SAR equal to the amount of the cash and the fair market value of any stock received. Upon the sale of the stock, the participant will have capital gain or loss equal to the difference between the sales proceeds and the value of the stock on the day the SAR was exercised. This capital gain or loss will be long-term if the participant held the stock for more than one year and otherwise will be short-term.

Restricted Stock Awards

A participant will not have income upon the grant of restricted stock unless an election under Section 83(b) of the Code is made within 30 days of the date of grant. If a timely 83(b) election is made, then a participant will have compensation income equal to the value of the stock less the purchase price. When the stock is sold, the participant will have capital gain or loss equal to the difference between the sales proceeds and the value of the stock on the date of grant. If the participant does not make an 83(b) election, then when the stock vests the participant will have compensation income equal to the value of the stock on the vesting date less the purchase price. When the stock is sold, the participant will have capital gain or loss equal to the sales proceeds less the value of the stock on the vesting date. Any capital gain or loss will be long-term if the participant held the stock for more than one year and otherwise will be short-term.

Restricted Stock Units

A participant will not have income upon the grant of a restricted stock unit. A participant is not permitted to make a Section 83(b) election with respect to a restricted stock unit award. When the restricted stock unit vests, the participant will have income on the vesting date in an amount equal to the fair market value of the stock on the vesting date less the purchase price, if any. When the stock is sold, the participant will have capital gain or loss equal to the sales proceeds less the value of the stock on the vesting date. Any capital gain or loss will be long-term if the participant held the stock for more than one year and otherwise will be short-term.

Other Stock-Based Awards

The tax consequences associated with any other stock-based award granted under the 2008 Plan will vary depending on the specific terms of such award. Among the relevant factors are whether or not the award has a readily ascertainable fair market value, whether or not the award is subject to forfeiture provisions or restrictions on transfer, the nature of the property to be received by the participant under the award and the participant's holding period and tax basis for the award or underlying common stock.

Tax Consequences to Us

There will be no tax consequences to our company except that we will be entitled to a deduction when a participant has compensation income. Any such deduction will be subject to the limitations of Section 162(m) of the Code.

PROPOSAL THREE — INCREASE IN THE NUMBER OF SHARES AUTHORIZED FOR ISSUANCE UNDER THE 1995 EMPLOYEE STOCK PURCHASE PLAN

On March 15, 2011, our board of directors voted to amend the 1995 Employee Stock Purchase Plan, which we refer to as the ESPP, to increase the number of shares of common stock available for issuance from 250,000 shares to 500,000 shares, subject to stockholder approval. The ESPP allows our employees to purchase shares of our common stock at a discount from market price through payroll deductions. Currently, we make four consecutive offerings each year.

The ESPP provides an important employee benefit which helps us attract and retain employees and encourage their participation in and commitment to our business and financial success. As of March 31, 2011, only 87,118 shares of the 250,000 shares previously authorized by stockholders for issuance under the ESPP remained available for issuance. We issued an aggregate of 43,496 shares in 2010 and 28,074 in 2009 under the ESPP. Approval of this increase in shares authorized for issuance under the plan is needed to allow us to continue to offer to our employees the opportunity to purchase shares of our common stock under the ESPP. Based on our current stock price and the number of current participants in the ESPP, we anticipate that this increase will provide sufficient shares for us to offer purchases under the ESPP for the foreseeable future.

The ESPP is intended to qualify as an employee stock purchase plan under Section 423 of the Internal Revenue Code of 1986. If the plan is qualified under Section 423, the employees who participate in the plan may enjoy certain tax advantages, as described below. Stockholder approval is required for the plan to be qualified under Section 423.

The board of directors believes that our future success depends, in large part, upon our ability to maintain a competitive position in attracting, retaining and motivating key personnel. **Accordingly, our board of directors believes that increasing the number of shares available for issuance pursuant to the ESPP is in the best interests of us and our stockholders and recommends a vote FOR the increase in the number of shares available for issuance pursuant to the ESPP.**

Description of the ESPP

The following is a brief summary of the ESPP.

Administration

Our board of directors or a committee appointed by our board of directors administers the ESPP and is authorized to make rules for the administration and interpretation of the plan.

Eligibility

All of our employees and employees of any subsidiary designated by the board of directors or the committee are eligible to participate in the ESPP if they are regularly employed by us or the designated subsidiary for more than twenty hours a week and for more than five months in a calendar year, they have been employed by us or a designated subsidiary for a least three months prior to enrolling in the plan and they are employees of us or a designated subsidiary on the first day of the applicable plan offering period. Any employee who, immediately after the grant of an option under the plan, would own 5% or more of the total combined voting power or value of our or any subsidiary's stock, is not eligible to participate. As of March 31, 2011, approximately 35 employees were eligible to participate in the ESPP.

Offerings

We may make one or more offerings to employees to purchase our common stock under the ESPP, as determined by the board of directors. The Committee chosen by the board of directors has determined that offerings will begin on the first trading day on or after September 1, December 1, March 1 and June 1, of each year, and that each such offering period will end on the last trading day of November, February, May and August. Our board of directors or the committee appointed by the board of directors may, at its discretion, change the duration of offering periods and the commencement date of offering periods.

Purchase Limitations

An employee may elect to have any multiple of 1% of the employee's base salary up to a maximum of 10% deducted for the purpose of purchasing stock under the ESPP. An employee may not be granted an option which permits his or her rights to purchase our common stock under this plan and any other Idera stock purchase plan to accrue at a rate which exceeds \$25,000 of the fair market value of the stock (determined at the time the option is granted) for each calendar year in which the option is outstanding at any time.

Purchase Price

A participating employee may purchase the stock at 85% of the last reported sale price of our common stock on either the day the offering begins or ends, whichever is lower.

Amendment and Termination

Our board of directors may at any time amend the plan in any respect, except that (a) if the approval of our stockholders is required under Section 423 of the Internal Revenue Code or any other applicable law, regulation or stock exchange rule, the amendment will not be effected without their approval, and (b) in no event may any amendment be made which would cause the ESPP to fail to comply with Section 423 of the Internal Revenue Code.

Merger or Consolidation

In the event that Idera merges or consolidates with another company and our capital stockholders immediately prior to such merger or consolidation continue to hold at least 80% of the voting power of the capital stock of the surviving corporation, at the end of the then current plan period each option holder under the ESPP will be entitled to receive securities or property of the surviving entity as if they were a common stockholder at the time of such transaction. In the event that such a merger or consolidation occurs and the holders of our capital stock hold less than 80% of the surviving corporation, the board of directors may elect to cancel all outstanding options under the ESPP and either: a) refund all contributed payments made by the holders or b) provide the holders with the right to exercise such option as of a date no less than ten days prior to such event. If the board of directors does not chose to cancel the options, after the effective date of such transaction each option holder shall be entitled to receive securities of the surviving entity as if they were a holder of common stock at the time of the transaction.

Plan Benefits

Directors who are not employees are not eligible to participate in the ESPP. The table below shows the number of shares of common stock purchased under the ESPP since its inception in 1995 by our Chief Executive Officer, each of our other named executive officers listed in the Summary Compensation Table under “Executive Compensation” below, all current executive officers as a group and all employees as a group other than current executive officers.

	Number of Shares Purchased Under the ESPP
Sudhir Agrawal, D. Phil.(1)	—
Louis L. Arcudi, III	5,865
Timothy M. Sullivan Ph.D.	32,951
Robert D. Arbeit, M.D.	3,251
All current executive officers as a group (4 persons)	42,067
All employees as a group other than the current executive officers as a group	120,815

(1) As the beneficial owner of more than 5% of our common stock, Dr. Agrawal may not participate in the ESPP.

The benefits and amounts that may be received in the future by persons eligible to participate in the ESPP are not currently determinable.

Federal Income Tax Consequences

The following generally summarizes the United States federal income tax consequences that will arise with respect to participation in the ESPP and with respect to the sale of common stock acquired under the ESPP. This summary is based on the tax laws in effect as of the date of this proxy statement. Changes to these laws could alter the tax consequences described below.

Tax Consequences to Participants

A participant will not have income upon enrolling in the ESPP or upon purchasing common stock at the end of an offering.

A participant may have both compensation income and a capital gain or loss upon the sale of common stock that was acquired under the ESPP. The amount of each type of income and loss will depend on when the participant sells the common stock.

If the participant sells the common stock more than two years after the commencement of the offering during which the common stock was purchased and more than one year after the date that the participant purchased the common stock and if such sale is made at a profit (the sales proceeds exceed the purchase price), then the participant will have compensation income equal to the lesser of:

- 15% of the value of the common stock on the day the offering commenced; and
- the participant’s profit.

Any profit in excess of the profit computed above and recognized as compensation income will be long-term capital gain. If the participant sells the common stock at a loss (if sales proceeds are less than the purchase price) after satisfying these waiting periods, then the loss will be a long-term capital loss.

If the participant sells the common stock prior to satisfying these waiting periods, then he or she will have engaged in a disqualifying disposition. Upon a disqualifying disposition, the participant will have compensation income equal to the value of the common stock on the day he or she purchased the common stock less the purchase price. The participant also will have a capital gain or loss equal to the difference between the sales proceeds and the value of the common stock on the day he or she purchased the common stock. This capital gain or loss will be long-term if the participant has held the common stock for more than one year and otherwise will be short-term.

There will be no tax consequences to us except that we will be entitled to a deduction when a participant has compensation income upon a disqualifying disposition. Any such deduction will be subject to the limitations of Section 162(m) of the Code.

PROPOSAL FOUR — NON-BINDING VOTE ON EXECUTIVE COMPENSATION

We are providing our stockholders the opportunity to vote to approve, on an advisory, non-binding basis, the compensation of our named executive officers as disclosed in this proxy statement in accordance with the SEC's rules. This proposal, which is commonly referred to as "say-on-pay," is required by the recently enacted Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010, which added Section 14A to the Exchange Act. Section 14A of the Exchange Act also requires that stockholders have the opportunity to cast an advisory vote with respect to whether future executive compensation advisory votes will be held every one, two or three years, which is the subject of Proposal Five.

Our compensation committee seeks to achieve the following broad goals in connection with our executive compensation programs and decisions regarding individual compensation:

- attract, retain and motivate the best possible executive talent;
- ensure executive compensation is aligned with our corporate strategies and business objectives, including our short-term operating goals and longer-term strategic objectives;
- promote the achievement of key strategic and financial performance measures by linking short- and long-term cash and equity incentives to the achievement of measurable corporate and individual performance goals; and
- align executives' incentives with the creation of stockholder value.

The compensation program for our executives generally consists of five elements based upon the foregoing objectives:

- base salary;
- annual cash bonuses;
- stock option awards;
- health care, life insurance and other employee benefits; and
- severance and change in control benefits.

The value of our variable, performance-based compensation is split between short-term compensation in the form of a cash bonus and long-term compensation in the form of stock option awards that vest over time. The annual cash bonus is intended to provide an incentive to our executives to achieve near-term operational objectives. The stock option awards provide an incentive for our executives to achieve longer-term strategic business goals, which should lead to higher stock prices and increased stockholder value.

The "Executive Compensation" section of this proxy statement beginning on page 19, including "Compensation Discussion and Analysis," describes in detail our executive compensation programs and the decisions made by the compensation committee and the board of directors with respect to the fiscal year ended December 31, 2010.

Our board of directors is asking stockholders to approve a non-binding advisory vote on the following resolution:

RESOLVED, that the compensation paid to the company's named executive officers, as disclosed pursuant to the compensation disclosure rules of the Securities and Exchange Commission, including the compensation discussion and analysis, the compensation tables and any related material disclosed in this proxy statement, is hereby approved.

As an advisory vote, this proposal is not binding. Neither the outcome of this advisory vote nor of the advisory vote included in Proposal Five overrules any decision by the company or our board of directors (or any committee thereof), creates or implies any change to the fiduciary duties of the company or our board of directors (or any committee thereof), or creates or implies any additional fiduciary duties for the company or our board of directors (or any committee thereof). However, our compensation committee and board of directors value the opinions expressed by our stockholders in their vote on this proposal and will consider the outcome of the vote when making future compensation decisions for named executive officers.

The board of directors recommends that stockholders vote to approve the compensation of our named executive officers by voting “FOR” Proposal Four.

PROPOSAL FIVE — NON-BINDING VOTE ON THE FREQUENCY OF FUTURE EXECUTIVE COMPENSATION ADVISORY VOTES

In Proposal Four, we are providing our stockholders the opportunity to vote to approve, on an advisory, non-binding basis, the compensation of our named executive officers. In this Proposal Five, we are asking our stockholders to cast a non-binding advisory vote regarding the frequency of future executive compensation advisory votes. Stockholders may vote for a frequency of every one, two, or three years, or may abstain.

The board of directors will take into consideration the outcome of this vote in making a determination about the frequency of future executive compensation advisory votes. However, because this vote is advisory and non-binding, the board of directors may decide that it is in the best interests of our stockholders and the company to hold the advisory vote to approve executive compensation more or less frequently. In the future, we will propose an advisory vote on the frequency of the executive compensation advisory vote at least once every six calendar years.

After careful consideration, the board of directors believes that an executive compensation advisory vote should be held every year, and therefore our board of directors recommends that you vote for a frequency of every ONE YEAR for future executive compensation advisory votes.

The board of directors believes that an annual executive compensation advisory vote will facilitate more direct stockholder input about executive compensation. An annual executive compensation advisory vote is consistent with our policy of reviewing our compensation program annually, as well as seeking frequent input from our stockholders on corporate governance and executive compensation matters. We believe an annual vote would be the best governance practice for our company at this time.

The board of directors believes that holding the executive compensation advisory vote every year is in the best interests of the company and its stockholders and recommends voting for a frequency of every “ONE YEAR.”

PROPOSAL SIX — RATIFICATION OF SELECTION OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

The audit committee of our board of directors has selected the firm of Ernst & Young LLP as our independent registered public accounting firm for the fiscal year ending December 31, 2011. Ernst & Young LLP has served as our independent accountants since 2002. Although stockholder approval of the audit committee’s selection of Ernst & Young LLP is not required by law, our board of directors believes that it is advisable to give stockholders an opportunity to ratify this selection. If this proposal is not approved at the annual meeting, the audit committee of our board of directors may reconsider its selection.

Representatives of Ernst & Young LLP are expected to be present at the annual meeting. They will have the opportunity to make a statement if they desire to do so and will also be available to respond to appropriate questions from stockholders.

Our board of directors recommends that you vote FOR the ratification of the selection of Ernst & Young LLP as our independent registered public accounting firm for the fiscal year ending December 31, 2011.

ACCOUNTING MATTERS Report of the Audit Committee

The audit committee has reviewed our audited financial statements for the fiscal year ended December 31, 2010 and discussed them with our management and our registered public accounting firm.

The audit committee has also received from, and discussed with, our registered public accounting firm various communications that our registered public accounting firm is required to provide to the audit committee, including the matters required to be discussed by the Statement on Auditing Standards No. 61, as amended (AICPA, *Professional Standards*, Vol. 1, AU section 380), as adopted by the Public Company Accounting Oversight Board in Rule 3200T.

The audit committee has received from Ernst & Young LLP the letter and other written disclosures required by applicable requirements of the Public Company Accounting Oversight Board regarding its communication with the audit committee concerning independence, and has discussed with Ernst & Young LLP its independence from the company. The audit committee has also considered whether the provision of other non-audit services by Ernst & Young LLP is compatible with maintaining their independence.

Based on the review and discussions referred to above, the audit committee recommended to our board of directors that the audited financial statements be included in our Annual Report on Form 10-K for the year ended December 31, 2010.

By the audit committee of the board of directors,

William S. Reardon, *Chairman*
C. Keith Hartley
Robert W. Karr
Hans Mueller

Independent Registered Public Accounting Firm Fees

We paid Ernst & Young LLP a total of \$414,005 for professional services rendered for the year ended December 31, 2010 and \$430,307 for professional services rendered for the year ended December 31, 2009. The following table provides information about these fees.

<u>Fee Category</u>	<u>2010</u>	<u>2009</u>
Audit Fees	\$377,750	\$364,620
Audit-Related Fees	—	1,742
Tax Fees	34,255	61,950
All Other Fees	2,000	1,995
Total Fees	<u>\$414,005</u>	<u>\$430,307</u>

Audit Fees

Audit fees consist of fees for the audit of our financial statements, the audit of our internal control over financial reporting, the review of the interim financial statements included in our quarterly reports on Form 10-Q, and other professional services provided in connection with statutory and regulatory filings or engagements.

Audit-Related Fees

Audit-related fees consist of fees for assurance and related services that are reasonably related to the performance of audits and reviews of our financial statements that are not reported under "Audit Fees." These services include audits of our employee benefit plan and consultations regarding internal controls, financial accounting and reporting standards.

Tax Fees

Tax fees consist of fees for tax compliance, tax advice and tax planning services. Tax compliance services, which relate to preparation of tax returns, accounted for \$19,000 of the total tax fees billed in both 2010 and 2009. Tax advice and tax planning services relate to consultations on our net operating loss carry forwards, collaboration agreements and stock option exercises.

All Other Fees

During fiscal 2010 and 2009, all other fees related to our subscription to Ernst & Young's online accounting and auditing research tool. Ernst & Young LLP did not collect fees for any other services for 2010 or 2009.

Our audit committee believes that the non-audit services described above did not compromise Ernst & Young LLP's independence. Our audit committee charter, which you can find by clicking "Investors" and "Corporate Governance" on our website, www.iderapharma.com, requires that all proposals to engage Ernst & Young LLP for services, and all proposed fees for these services, be submitted to the audit committee for approval before Ernst & Young LLP may provide the services.

Pre-Approval Policies and Procedures

Our audit committee has adopted policies and procedures relating to the approval of all audit and non-audit services that are to be performed by our registered public accounting firm. This policy generally provides that we will not engage our registered public accounting firm to render audit or non-audit services unless the service is specifically approved in advance by the audit committee or the engagement is entered into pursuant to the pre-approval procedures described below.

From time to time, the audit committee may pre-approve specified types of services that are expected to be provided to us by our registered public accounting firm during the next 12 months. Any such pre-approval is detailed as to the particular service or type of services to be provided and is also generally subject to a maximum dollar amount. All of the services described above under the headings "Audit-Related Fees," "Tax Fees" and "All Other Fees" were pre-approved by our audit committee.

TRANSACTIONS WITH RELATED PERSONS

Our board of directors is committed to upholding the highest legal and ethical conduct in fulfilling its responsibilities and recognizes that related party transactions can present a heightened risk of potential or actual conflicts of interest. Accordingly, as a general matter, it is our preference to avoid related party transactions.

In accordance with our audit committee charter, members of the audit committee, all of whom are independent directors, review and approve all related party transactions for which approval is required under applicable laws or regulations, including SEC and the NASDAQ Stock Market rules. Current SEC rules define a related party transaction to include any transaction, arrangement or relationship in which we are a participant and the amount involved exceeds \$120,000, and in which any of the following persons has or will have a direct or indirect interest:

- our executive officers, directors or director nominees;
- any person who is known to be the beneficial owner of more than 5% of our common stock;
- any person who is an immediate family member, as defined under Item 404 of Regulation S-K, of any of our executive officers, directors or director nominees or beneficial owners of more than 5% of our common stock; or
- any firm, corporation or other entity in which any of the foregoing persons is employed or is a partner or principal or in a similar position or in which such person, together with any other of the foregoing persons, has a 5% or greater beneficial ownership interest.

In addition, the audit committee reviews and investigates any matters pertaining to the integrity of management, including conflicts of interest and adherence to our code of business conduct and ethics. Under our code of

business conduct and ethics, our directors, officers and employees are expected to avoid any relationship, influence or activity that would cause or even appear to cause a conflict of interest. Under our code of business conduct and ethics, a director is required to promptly disclose to our board of directors any potential or actual conflict of interest involving him or her. In accordance with our code of business conduct and ethics, the board of directors will determine an appropriate resolution on a case-by-case basis. All directors must recuse themselves from any discussion or decision affecting their personal, business or professional interests.

Since January 1, 2010, except as discussed below regarding Merck & Co., Inc., a greater than 5% stockholder, we have not entered into or engaged in any related party transactions, as defined by the SEC, with our directors, officers and stockholders who beneficially owned more than 5% of our outstanding common stock, as well as affiliates or immediate family members of those directors, officers and stockholders. We believe that the terms of the transaction described below were no less favorable than those that we could have obtained from unaffiliated third parties.

Merck Sharp & Dohme Corp. (Merck)

In December 2006, we entered into an exclusive license and research collaboration agreement with Merck to research, develop and commercialize vaccine products containing our TLR7, 8 and 9 agonists in the fields of cancer, infectious diseases and Alzheimer's disease. Under the terms of the agreement, we granted Merck worldwide exclusive rights to a number of our TLR7, 8 and 9 agonists for use in combination with Merck's therapeutic and prophylactic vaccines under development in the fields of cancer, infectious diseases, and Alzheimer's disease. There is no limit to the number of vaccines to which Merck can apply our agonists within these fields. We also agreed with Merck to engage in a two-year research collaboration to generate novel agonists targeting TLR7 and TLR8 and incorporating both Merck and our chemistry for use in vaccines in the defined fields. Under the terms of the agreement, Merck extended the research collaboration for two additional years to December 2010.

Under the terms of the agreement:

- Merck paid us a \$20.0 million upfront license fee;
- Merck purchased \$10.0 million of our common stock at \$5.50 per share;
- Merck agreed to fund the research and development collaboration through its term;
- Merck agreed to pay us milestone payments as follows:
 - up to \$165.0 million if vaccines containing our TLR9 agonist compounds are successfully developed and marketed in each of the oncology, infectious disease and Alzheimer's disease fields;
 - up to \$260.0 million if vaccines containing our TLR9 agonist compounds are successfully developed and marketed for follow-on indications in the oncology field and if vaccines containing our TLR7 or TLR8 agonists are successfully developed and marketed in each of the oncology, infectious disease, and Alzheimer's disease fields; and
 - if Merck develops and commercializes additional vaccines using our agonists, we would be entitled to receive additional milestone payments, and
- Merck agreed to pay us mid to upper single-digit royalties on net product sales of vaccines using our TLR agonist technology that are developed and marketed, with the royalty rates being dependent on disease indication and the TLR agonist employed.

Under the agreement, Merck is obligated to pay us royalties, on a product-by-product and country-by-country basis, until the later of the expiration of the patent rights licensed to Merck and the expiration of regulatory-based exclusivity for the vaccine product. If the patent rights and regulatory-based exclusivity expire in a particular country before the 10th anniversary of the product's first commercial sale in such country, Merck's obligation to pay us royalties will continue at a reduced royalty rate until such anniversary, except that Merck's royalty obligation will terminate upon the achievement of a specified market share in such country by a competing vaccine containing an agonist targeting the same toll-like receptor as that targeted by the agonist in the Merck vaccine. In addition, the applicable royalties may be reduced if Merck is required to pay royalties to third parties for licenses to intellectual

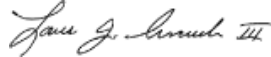
property rights, which royalties exceed a specified threshold. Merck's royalty and milestone obligations may also be reduced if Merck terminates the agreement based on specified uncured material breaches by us.

Merck may terminate the collaborative alliance without cause upon 90 days written notice to us. Either party may terminate the collaborative alliance upon the other party's filing or institution of bankruptcy, reorganization, liquidation or receivership proceedings, or for a material breach if such breach is not cured within 60 days after delivery of written notice.

SECTION 16(A) BENEFICIAL OWNERSHIP REPORTING COMPLIANCE

Based solely on our review of copies of reports filed by individuals and entities required to make filings pursuant to Section 16(a) of the Exchange Act or written representations from such individuals or entities, we believe that during 2010 all filings required to be made by such individuals or entities were timely made in accordance with the Exchange Act.

By order of the board of directors,



Louis J. Arcudi, III, *Secretary*

April 27, 2011

IDERA PHARMACEUTICALS, INC.

2008 STOCK INCENTIVE PLAN
(As amended through March 15, 2011)

1. Purpose

The purpose of this 2008 Stock Incentive Plan (the “Plan”) of Idera Pharmaceuticals, Inc., a Delaware corporation (the “Company”), is to advance the interests of the Company’s stockholders by enhancing the Company’s ability to attract, retain and motivate persons who are expected to make important contributions to the Company and by providing such persons with equity ownership opportunities and performance-based incentives that are intended to better align the interests of such persons with those of the Company’s stockholders. Except where the context otherwise requires, the term “Company” shall include any of the Company’s present or future parent or subsidiary corporations as defined in Sections 424(e) or (f) of the Internal Revenue Code of 1986, as amended, and any regulations promulgated thereunder (the “Code”) and any other business venture (including, without limitation, joint venture or limited liability company) in which the Company has a controlling interest, as determined by the Board of Directors of the Company (the “Board”).

2. Eligibility

All of the Company’s employees, officers, directors, consultants and advisors are eligible to be granted options, stock appreciation rights (“SARs”), restricted stock, restricted stock units (“RSUs”) and other stock-based awards (each, an “Award”) under the Plan. Each person who receives an Award under the Plan is deemed a “Participant.”

3. Administration and Delegation

(a) Administration by Board of Directors. The Plan will be administered by the Board. The Board shall have authority to grant Awards and to adopt, amend and repeal such administrative rules, guidelines and practices relating to the Plan as it shall deem advisable. The Board may construe and interpret the terms of the Plan and any Award agreements entered into under the Plan. The Board may correct any defect, supply any omission or reconcile any inconsistency in the Plan or any Award in the manner and to the extent it shall deem expedient to carry the Plan into effect and it shall be the sole and final judge of such expediency. All decisions by the Board shall be made in the Board’s sole discretion and shall be final and binding on all persons having or claiming any interest in the Plan or in any Award. No director or person acting pursuant to the authority delegated by the Board shall be liable for any action or determination relating to or under the Plan made in good faith.

(b) Appointment of Committees. To the extent permitted by applicable law, the Board may delegate any or all of its powers under the Plan to one or more committees or subcommittees of the Board (a “Committee”). All references in the Plan to the “Board” shall mean the Board or a Committee of the Board or the officers referred to in Section 3(c) to the extent that the Board’s powers or authority under the Plan have been delegated to such Committee or officers.

(c) Delegation to Officers. To the extent permitted by applicable law, the Board may delegate to one or more officers of the Company the power to grant Awards (subject to any limitations under the Plan) to employees or officers of the Company or any of its present or future subsidiary corporations and to exercise such other powers under the Plan as the Board may determine, provided that the Board shall fix the terms of the Awards to be granted by such officers (including the exercise price of such Awards, which may include a formula by which the exercise price will be determined) and the maximum number of shares subject to Awards that the officers may grant; provided further, however, that no officer shall be authorized to grant Awards to any “executive officer” of the Company (as defined by Rule 3b-7 under the Securities Exchange Act of 1934, as amended (the “Exchange Act”)) or to any “officer” of the Company (as defined by Rule 16a-1 under the Exchange Act).

(d) Awards to Non-Employee Directors. Discretionary Awards to non-employee directors will only be granted and administered by a Committee, all of the members of which are independent as defined by Section 4200(a)(15) of the Nasdaq Marketplace Rules.

4. Stock Available for Awards

(a) Number of Shares; Share Counting.

(1) Authorized Number of Shares. Subject to adjustment under Section 9, Awards may be made under the Plan for up to 6,000,000 shares of common stock, \$0.001 par value per share, of the Company (the “Common Stock”). Shares issued under the Plan may consist in whole or in part of authorized but unissued shares or treasury shares.

(2) Fungible Share Pool. Subject to adjustment under Section 10, any Award that is not a Full-Value Award shall be counted against the share limits specified in Sections 4(a)(1) as one share for each share of Common Stock subject to such Award and any Award that is a Full-Value Award shall be counted against the share limits specified in Sections 4(a)(1) as 1.4 shares for each one share of Common Stock subject to such Full-Value Award. “Full-Value Award” means any Restricted Stock Award or other Stock-Based Award with a per share price or per unit purchase price lower than 100% of Fair Market Value (as defined below) on the date of grant. To the extent a share that was subject to an Award that counted as one share is returned to the Plan pursuant to Section 4(a)(3), each applicable share reserve will be credited with one share. To the extent that a share that was subject to an Award that counts as 1.4 shares is returned to the Plan pursuant to Section 4(a)(3), each applicable share reserve will be credited with 1.4 shares.

(3) Share Counting. For purposes of counting the number of shares available for the grant of Awards under the Plan and under the sub-limit contained in Sections 4(b), (i) all shares of Common Stock covered by independent SARs shall be counted against the number of shares available for the grant of Awards; provided, however, that independent SARs that may be settled in cash only shall not be so counted; (ii) if any Award (A) expires or is terminated, surrendered or canceled without having been fully exercised or is forfeited in whole or in part (including as the result of shares of Common Stock subject to such Award being repurchased by the Company at the original issuance price pursuant to a contractual repurchase right) or (B) results in any Common Stock not being issued (including as a result of an independent SAR that

was settleable either in cash or in stock actually being settled in cash), the unused Common Stock covered by such Award shall again be available for the grant of Awards; provided, however, in the case of Incentive Stock Options (as hereinafter defined), the foregoing shall be subject to any limitations under the Code; and provided further, in the case of independent SARs, that the full number of shares subject to any stock-settled SAR shall be counted against the shares available under the Plan and against the sub-limit listed in the first clause of this Section regardless of the number of shares actually used to settle such SAR upon exercise; (iii) shares of Common Stock delivered (either by actual delivery or attestation) to the Company by a Participant to (A) purchase shares of Common Stock upon the exercise of an Award or (B) satisfy tax withholding obligations (including shares retained from the Award creating the tax obligation) shall not be added back to the number of shares available for the future grant of Awards; and (iv) shares of Common Stock repurchased by the Company on the open market using the proceeds from the exercise of an Award shall not increase the number of shares available for future grant of Awards.

(b) Section 162(m) Per-Participant Limit. Subject to adjustment under Section 9, the maximum number of shares of Common Stock with respect to which Awards may be granted to any Participant under the Plan shall be 500,000 per calendar year. For purposes of the foregoing limit, the combination of an Option (as hereafter defined) in tandem with a SAR shall be treated as a single Award. The per Participant limit described in this Section 4(b) shall be construed and applied consistently with Section 162(m) of the Code or any successor provision thereto, and the regulations thereunder (“Section 162(m)”).

(c) Substitute Awards. In connection with a merger or consolidation of an entity with the Company or the acquisition by the Company of property or stock of an entity, the Board may grant Awards in substitution for any options or other stock or stock-based awards granted by such entity or an affiliate thereof. Substitute Awards may be granted on such terms as the Board deems appropriate in the circumstances, notwithstanding any limitations on Awards contained in the Plan. Substitute Awards shall not count against the overall share limit set forth in Section 4(a)(1) or any sub-limits contained in the Plan, except as may be required by reason of Section 422 and related provisions of the Code.

5. Stock Options

(a) General. The Board may grant options to purchase Common Stock (each, an “Option”) and determine the number of shares of Common Stock to be covered by each Option, the exercise price of each Option and the conditions and limitations applicable to the exercise of each Option, including conditions relating to applicable federal or state securities laws, as it considers necessary or advisable. An Option that is not intended to be an Incentive Stock Option (as hereinafter defined) shall be designated a “Nonstatutory Stock Option.”

(b) Incentive Stock Options. An Option that the Board intends to be an “incentive stock option” as defined in Section 422 of the Code (an “Incentive Stock Option”) shall only be granted to employees of Idera Pharmaceuticals, Inc., any of Idera Pharmaceuticals, Inc.’s present or future parent or subsidiary corporations as defined in Sections 424(e) or (f) of the Code, and any other entities the employees of which are eligible to receive Incentive Stock Options under the Code, and shall be subject to and shall be construed consistently with the requirements of

Section 422 of the Code. The Company shall have no liability to a Participant, or any other party, if an Option (or any part thereof) that is intended to be an Incentive Stock Option is not an Incentive Stock Option or for any action taken by the Board, including without limitation the conversion of an Incentive Stock Option to a Nonstatutory Stock Option.

(c) Exercise Price. The Board shall establish the exercise price of each Option and specify the exercise price in the applicable option agreement. The exercise price shall be not less than 100% of the Fair Market Value (as defined below) on the date the Option is granted; provided that if the Board approves the grant of an Option with an exercise price to be determined on a future date, the exercise price shall be not less than 100% of the Fair Market Value on such future date.

(d) Duration of Options. Each Option shall be exercisable at such times and subject to such terms and conditions as the Board may specify in the applicable option agreement; provided, however, that no Option will be granted with a term in excess of 10 years.

(e) No Reload Options. No Option granted under the Plan shall contain any provision entitling the Participant to the automatic grant of additional Options in connection with any exercise of the original Option.

(f) Exercise of Option. Options may be exercised by delivery to the Company of a written notice of exercise signed by the proper person or by any other form of notice (including electronic notice) approved by the Board, together with payment in full as specified in Section 5(g) for the number of shares for which the Option is exercised. Shares of Common Stock subject to the Option will be delivered by the Company as soon as practicable following exercise.

(g) Payment Upon Exercise. Common Stock purchased upon the exercise of an Option granted under the Plan shall be paid for as follows:

(1) in cash, by check or by wire transfer, payable to the order of the Company;

(2) except as the Board may otherwise provide in the applicable option agreement, by (i) delivery of an irrevocable and unconditional undertaking by a creditworthy broker to deliver promptly to the Company sufficient funds to pay the exercise price and any required tax withholding or (ii) delivery by the Participant to the Company of a copy of irrevocable and unconditional instructions to a creditworthy broker to deliver promptly to the Company cash or a check sufficient to pay the exercise price and any required tax withholding;

(3) for so long as the Common Stock is registered under the Exchange Act, by delivery (either by actual delivery or attestation) of shares of Common Stock owned by the Participant valued at their fair market value as determined by (or in a manner approved by) the Board ("Fair Market Value"), provided (i) such method of payment is then permitted under applicable law, (ii) such Common Stock, if acquired directly from the Company, was owned by the Participant for such minimum period of time, if any, as may be established by the Board in its discretion and (iii) such Common Stock is not subject to any repurchase, forfeiture, unfulfilled vesting or other similar requirements;

(4) to the extent permitted by applicable law and provided for in the applicable option agreement or approved by the Board, in its sole discretion, by (i) delivery of a promissory note of the Participant to the Company on terms determined by the Board, or (ii) payment of such other lawful consideration as the Board may determine; or

(5) by any combination of the above permitted forms of payment.

(h) Limitation on Repricing. Unless such action is approved by the Company's stockholders: (1) no outstanding Option granted under the Plan may be amended to provide an exercise price per share that is lower than the then-current exercise price per share of such outstanding Option (other than adjustments pursuant to Section 9) and (2) the Board may not cancel any outstanding option (whether or not granted under the Plan) and grant in substitution therefor new Awards under the Plan covering the same or a different number of shares of Common Stock and having an exercise price per share lower than the then-current exercise price per share of the cancelled option.

6. Stock Appreciation Rights

(a) General. The Board may grant Awards consisting of SARs, which entitle the holder, upon exercise, to receive an amount of Common Stock or cash or a combination thereof (such form to be determined by the Board) determined in whole or in part by reference to appreciation, from and after the date of grant, in the fair market value of a share of Common Stock over the exercise price established pursuant to Section 6(c). The date as of which such appreciation is determined shall be the exercise date.

(b) Grants. SARs may be granted in tandem with, or independently of, Options granted under the Plan.

(1) Tandem Awards. When SARs are expressly granted in tandem with Options, (i) the SAR will be exercisable only at such time or times, and to the extent, that the related Option is exercisable (except to the extent designated by the Board in connection with a Reorganization Event) and will be exercisable in accordance with the procedure required for exercise of the related Option; (ii) the SAR will terminate and no longer be exercisable upon the termination or exercise of the related Option, except to the extent designated by the Board in connection with a Reorganization Event and except that a SAR granted with respect to less than the full number of shares covered by an Option will not be reduced until the number of shares as to which the related Option has been exercised or has terminated exceeds the number of shares not covered by the SAR; (iii) the Option will terminate and no longer be exercisable upon the exercise of the related SAR; and (iv) the SAR will be transferable only with the related Option.

(2) Independent SARs. A SAR not expressly granted in tandem with an Option will become exercisable at such time or times, and on such conditions, as the Board may specify in the SAR Award.

(c) Exercise Price. The Board shall establish the exercise price of each SAR and specify it in the applicable SAR agreement. The exercise price shall not be less than 100% of the Fair Market Value on the date the SAR is granted; provided that if the Board approves the grant

of a SAR with an exercise price to be determined on a future date, the exercise price shall be not less than 100% of the Fair Market Value on such future date.

(d) Duration of SARs. Each SAR shall be exercisable at such times and subject to such terms and conditions as the Board may specify in the applicable SAR agreement; provided, however, that no SAR will be granted with a term in excess of 10 years.

(e) Exercise of SARs. SARs may be exercised by delivery to the Company of a written notice of exercise signed by the proper person or by any other form of notice (including electronic notice) approved by the Board, together with any other documents required by the Board.

(f) Limitation on Repricing. Unless such action is approved by the Company's stockholders: (1) no outstanding SAR granted under the Plan may be amended to provide an exercise price per share that is lower than the then-current exercise price per share of such outstanding SAR (other than adjustments pursuant to Section 9) and (2) the Board may not cancel any outstanding SAR (whether or not granted under the Plan) and grant in substitution therefor new Awards under the Plan covering the same or a different number of shares of Common Stock and having an exercise price per share lower than the then-current exercise price per share of the cancelled SAR.

7. Restricted Stock; Restricted Stock Units

(a) General. The Board may grant Awards entitling recipients to acquire shares of Common Stock ("Restricted Stock"), subject to the right of the Company to repurchase all or part of such shares at their issue price or other stated or formula price (or to require forfeiture of such shares if issued at no cost) from the recipient in the event that conditions specified by the Board in the applicable Award are not satisfied prior to the end of the applicable restriction period or periods established by the Board for such Award. Instead of granting Awards for Restricted Stock, the Board may grant Awards entitling the recipient to receive shares of Common Stock or cash to be delivered at the time such Award vests ("Restricted Stock Units") (Restricted Stock and Restricted Stock Units are each referred to herein as a "Restricted Stock Award").

(b) Terms and Conditions for All Restricted Stock Awards. The Board shall determine the terms and conditions of a Restricted Stock Award, including the conditions for vesting and repurchase (or forfeiture) and the issue price, if any.

(c) Additional Provisions Relating to Restricted Stock.

(1) Dividends. Participants holding shares of Restricted Stock will be entitled to all ordinary cash dividends paid with respect to such shares, unless otherwise provided by the Board. Unless otherwise provided by the Board, if any dividends or distributions are paid in shares, or consist of a dividend or distribution to holders of Common Stock other than an ordinary cash dividend, the shares, cash or other property will be subject to the same restrictions on transferability and forfeitability as the shares of Restricted Stock with respect to which they were paid. Each dividend payment will be made no later than the end of the calendar year in

which the dividends are paid to shareholders of that class of stock or, if later, the 15th day of the third month following the date the dividends are paid to shareholders of that class of stock.

(2) Stock Certificates. The Company may require that any stock certificates issued in respect of shares of Restricted Stock shall be deposited in escrow by the Participant, together with a stock power endorsed in blank, with the Company (or its designee). At the expiration of the applicable restriction periods, the Company (or such designee) shall deliver the certificates no longer subject to such restrictions to the Participant or if the Participant has died, to the beneficiary designated, in a manner determined by the Board, by a Participant to receive amounts due or exercise rights of the Participant in the event of the Participant's death (the "Designated Beneficiary"). In the absence of an effective designation by a Participant, "Designated Beneficiary" shall mean the Participant's estate.

(d) Additional Provisions Relating to Restricted Stock Units.

(1) Settlement. Upon the vesting of and/or lapsing of any other restrictions (i.e., settlement) with respect to each Restricted Stock Unit, the Participant shall be entitled to receive from the Company one share of Common Stock or an amount of cash equal to the Fair Market Value of one share of Common Stock, as provided in the applicable Award agreement. The Board may, in its discretion, provide that settlement of Restricted Stock Units shall be deferred, on a mandatory basis or at the election of the Participant, in a manner compliant with Section 409A of the Code.

(2) Voting Rights. A Participant shall have no voting rights with respect to any Restricted Stock Units.

(3) Dividend Equivalents. To the extent provided by the Board, in its sole discretion, a grant of Restricted Stock Units may provide Participants with the right to receive an amount equal to any dividends or other distributions declared and paid on an equal number of outstanding shares of Common Stock ("Dividend Equivalents"). Dividend Equivalents may be paid currently or credited to an account for the Participants, may be settled in cash and/or shares of Common Stock and may be subject to the same restrictions on transfer and forfeitability as the Restricted Stock Units with respect to which paid, as determined by the Board in its sole discretion, subject in each case to such terms and conditions as the Board shall establish, in each case to be set forth in the applicable Award agreement.

8. Other Stock-Based Awards

(a) General. Other Awards of shares of Common Stock, and other Awards that are valued in whole or in part by reference to, or are otherwise based on, shares of Common Stock or other property, may be granted hereunder to Participants ("Other Stock-Based-Awards"), including without limitation Awards entitling recipients to receive shares of Common Stock to be delivered in the future. Such Other Stock-Based Awards shall also be available as a form of payment in the settlement of other Awards granted under the Plan or as payment in lieu of compensation to which a Participant is otherwise entitled. Other Stock-Based Awards may be paid in shares of Common Stock or cash, as the Board shall determine.

(b) Terms and Conditions. Subject to the provisions of the Plan, the Board shall determine the terms and conditions of each Other Stock-Based Award, including any purchase price applicable thereto.

9. Adjustments for Changes in Common Stock and Certain Other Events

(a) Changes in Capitalization. In the event of any stock split, reverse stock split, stock dividend, recapitalization, combination of shares, reclassification of shares, spin-off or other similar change in capitalization or event, or any dividend or distribution to holders of Common Stock other than an ordinary cash dividend, (i) the number and class of securities available under this Plan, (ii) the share counting rules and sub-limits set forth in Sections 4(a) and 4(b), (iii) the number and class of securities and exercise price per share of each outstanding Option, (iv) the share- and per-share provisions and the exercise price of each SAR, (v) the number of shares subject to and the repurchase price per share subject to each outstanding Restricted Stock Award and (vi) the share- and per-share-related provisions and the purchase price, if any, of each outstanding Other Stock-Based Award, shall be equitably adjusted by the Company (or substituted Awards may be made, if applicable) in the manner determined by the Board. Without limiting the generality of the foregoing, in the event the Company effects a split of the Common Stock by means of a stock dividend and the exercise price of and the number of shares subject to an outstanding Option are adjusted as of the date of the distribution of the dividend (rather than as of the record date for such dividend), then an optionee who exercises an Option between the record date and the distribution date for such stock dividend shall be entitled to receive, on the distribution date, the stock dividend with respect to the shares of Common Stock acquired upon such Option exercise, notwithstanding the fact that such shares were not outstanding as of the close of business on the record date for such stock dividend.

(b) Reorganization Events.

(1) Definition. A "Reorganization Event" shall mean: (a) any merger or consolidation of the Company with or into another entity as a result of which all of the Common Stock of the Company is converted into or exchanged for the right to receive cash, securities or other property or is cancelled, (b) any exchange of all of the Common Stock of the Company for cash, securities or other property pursuant to a share exchange transaction or (c) any liquidation or dissolution of the Company.

(2) Consequences of a Reorganization Event on Awards Other than Awards of Restricted Stock. In connection with a Reorganization Event, the Board may take any one or more of the following actions as to all or any (or any portion of) outstanding Awards other than Awards of Restricted Stock on such terms as the Board determines: (i) provide that Awards shall be assumed, or substantially equivalent Awards shall be substituted, by the acquiring or succeeding corporation (or an affiliate thereof), (ii) upon written notice to a Participant, provide that the Participant's unexercised Awards will terminate immediately prior to the consummation of such Reorganization Event unless exercised by the Participant within a specified period following the date of such notice, (iii) provide that outstanding Awards shall become exercisable, realizable, or deliverable, or restrictions applicable to an Award shall lapse, in whole or in part prior to or upon such Reorganization Event, (iv) in the event of a Reorganization Event under the terms of which holders of Common Stock will receive upon consummation thereof a cash

payment for each share surrendered in the Reorganization Event (the "Acquisition Price"), make or provide for a cash payment to a Participant equal to the excess, if any, of (A) the Acquisition Price times the number of shares of Common Stock subject to the Participant's Awards (to the extent the exercise price does not exceed the Acquisition Price) over (B) the aggregate exercise price of all such outstanding Awards and any applicable tax withholdings, in exchange for the termination of such Awards, (v) provide that, in connection with a liquidation or dissolution of the Company, Awards shall convert into the right to receive liquidation proceeds (if applicable, net of the exercise price thereof and any applicable tax withholdings) and (vi) any combination of the foregoing. In taking any of the actions permitted under this Section 9(b), the Board shall not be obligated by the Plan to treat all Awards, all Awards held by a Participant, or all Awards of the same type, identically.

For purposes of clause (i) above, an Option shall be considered assumed if, following consummation of the Reorganization Event, the Option confers the right to purchase, for each share of Common Stock subject to the Option immediately prior to the consummation of the Reorganization Event, the consideration (whether cash, securities or other property) received as a result of the Reorganization Event by holders of Common Stock for each share of Common Stock held immediately prior to the consummation of the Reorganization Event (and if holders were offered a choice of consideration, the type of consideration chosen by the holders of a majority of the outstanding shares of Common Stock); provided, however, that if the consideration received as a result of the Reorganization Event is not solely common stock of the acquiring or succeeding corporation (or an affiliate thereof), the Company may, with the consent of the acquiring or succeeding corporation, provide for the consideration to be received upon the exercise of Options to consist solely of common stock of the acquiring or succeeding corporation (or an affiliate thereof) equivalent in value (as determined by the Board) to the per share consideration received by holders of outstanding shares of Common Stock as a result of the Reorganization Event.

(3) Consequences of a Reorganization Event on Awards of Restricted Stock. Upon the occurrence of a Reorganization Event other than a liquidation or dissolution of the Company, the repurchase and other rights of the Company under each outstanding Award of Restricted Stock shall inure to the benefit of the Company's successor and shall, unless the Board determines otherwise, apply to the cash, securities or other property which the Common Stock was converted into or exchanged for pursuant to such Reorganization Event in the same manner and to the same extent as they applied to the Common Stock subject to such Award of Restricted Stock. Upon the occurrence of a Reorganization Event involving the liquidation or dissolution of the Company, except to the extent specifically provided to the contrary in the instrument evidencing any Award of Restricted Stock or any other agreement between a Participant and the Company, all restrictions and conditions on all Awards of Restricted Stock then outstanding shall automatically be deemed terminated or satisfied.

10. General Provisions Applicable to Awards

(a) Transferability of Awards. Awards shall not be sold, assigned, transferred, pledged or otherwise encumbered by the person to whom they are granted, either voluntarily or by operation of law, except by will or the laws of descent and distribution or, other than in the case of an Incentive Stock Option, pursuant to a qualified domestic relations order, and, during

the life of the Participant, shall be exercisable only by the Participant; provided, however, that the Board may permit or provide in an Award for the gratuitous transfer of the Award by the Participant to or for the benefit of any immediate family member, family trust or other entity established for the benefit of the Participant and/or an immediate family member thereof if, with respect to such proposed transferee, the Company would be eligible to use a Form S-8 for the registration of the sale of the Common Stock subject to such Award under the Securities Act of 1933, as amended; provided, further, that the Company shall not be required to recognize any such transfer until such time as the Participant and such permitted transferee shall, as a condition to such transfer, deliver to the Company a written instrument in form and substance satisfactory to the Company confirming that such transferee shall be bound by all of the terms and conditions of the Award. References to a Participant, to the extent relevant in the context, shall include references to authorized transferees.

(b) Documentation. Each Award shall be evidenced in such form (written, electronic or otherwise) as the Board shall determine. Each Award may contain terms and conditions in addition to those set forth in the Plan.

(c) Board Discretion. Except as otherwise provided by the Plan, each Award may be made alone or in addition or in relation to any other Award. The terms of each Award need not be identical, and the Board need not treat Participants uniformly.

(d) Termination of Status. The Board shall determine the effect on an Award of the disability, death, retirement, termination or other cessation of employment, authorized leave of absence or other change in the employment or other status of a Participant and the extent to which, and the period during which, the Participant, or the Participant's legal representative, conservator, guardian or Designated Beneficiary, may exercise rights under the Award.

(e) Withholding. The Participant must satisfy all applicable federal, state, and local or other income and employment tax withholding obligations before the Company will deliver stock certificates or otherwise recognize ownership of Common Stock under an Award. The Company may decide to satisfy the withholding obligations through additional withholding on salary or wages. If the Company elects not to or cannot withhold from other compensation, the Participant must pay the Company the full amount, if any, required for withholding or have a broker tender to the Company cash equal to the withholding obligations. Payment of withholding obligations is due before the Company will issue any shares on exercise or release from forfeiture of an Award or, if the Company so requires, at the same time as is payment of the exercise price unless the Company determines otherwise. Except as the Board may otherwise provide in an Award, a Participant may satisfy such tax obligations in whole or in part by delivery (either by actual delivery or attestation) of shares of Common Stock, including shares retained from the Award creating the tax obligation, valued at their Fair Market Value; provided, however, except as otherwise provided by the Board, that the total tax withholding where stock is being used to satisfy such tax obligations cannot exceed the Company's minimum statutory withholding obligations (based on minimum statutory withholding rates for federal and state tax purposes, including payroll taxes, that are applicable to such supplemental taxable income). Shares used to satisfy tax withholding requirements cannot be subject to any repurchase, forfeiture, unfulfilled vesting or other similar requirements.

(f) Amendment of Award. Except as otherwise provided in Section 5(h) and 6(f) with respect to repricings, Section 10(i) with respect to Performance Awards or Section 11(d) with respect to actions requiring shareholder approval, the Board may amend, modify or terminate any outstanding Award, including but not limited to, substituting therefor another Award of the same or a different type, changing the date of exercise or realization, and converting an Incentive Stock Option to a Nonstatutory Stock Option. The Participant's consent to such action shall be required unless (i) the Board determines that the action, taking into account any related action, would not materially and adversely affect the Participant's rights under the Plan or (ii) the change is permitted under Section 9 hereof.

(g) Conditions on Delivery of Stock. The Company will not be obligated to deliver any shares of Common Stock pursuant to the Plan or to remove restrictions from shares previously delivered under the Plan until (i) all conditions of the Award have been met or removed to the satisfaction of the Company, (ii) in the opinion of the Company's counsel, all other legal matters in connection with the issuance and delivery of such shares have been satisfied, including any applicable securities laws and any applicable stock exchange or stock market rules and regulations, and (iii) the Participant has executed and delivered to the Company such representations or agreements as the Company may consider appropriate to satisfy the requirements of any applicable laws, rules or regulations.

(h) Acceleration. The Board may at any time provide that any Award shall become immediately exercisable in full or in part, free of some or all restrictions or conditions, or otherwise realizable in full or in part, as the case may be.

(i) Performance Awards.

(1) Grants. Restricted Stock Awards and Other Stock-Based Awards under the Plan may be made subject to the achievement of performance goals pursuant to this Section 10(i) ("Performance Awards"), subject to the limit in Section 4(b) on shares covered by such grants.

(2) Committee. Grants of Performance Awards to any Covered Employee intended to qualify as "performance-based compensation" under Section 162(m) ("Performance-Based Compensation") shall be made only by a Committee (or subcommittee of a Committee) comprised solely of two or more directors eligible to serve on a committee making Awards qualifying as "performance-based compensation" under Section 162(m). In the case of such Awards granted to Covered Employees, references to the Board or to a Committee shall be deemed to be references to such Committee or subcommittee. "Covered Employee" shall mean any person who is, or whom the Committee, in its discretion, determines may be, a "covered employee" under Section 162(m)(3) of the Code.

(3) Performance Measures. For any Award that is intended to qualify as Performance-Based Compensation, the Committee shall specify that the degree of granting, vesting and/or payout shall be subject to the achievement of one or more objective performance measures established by the Committee, which shall be based on the relative or absolute attainment of specified levels of one or any combination of the following: (a) earnings per share, (b) return on average equity or average assets with respect to a pre determined peer group, (c)

earnings, (d) earnings growth, (e) revenues, (f) expenses, (g) stock price, (h) market share, (i) return on sales, assets, equity or investment, (j) regulatory compliance, (k) achievement of balance sheet or income statement objectives, (l) total shareholder return (m) net operating profit after tax, (n) pre tax or after tax income, (o) cash flow, (p) achievement of research, development, clinical or regulatory milestones, (q) product sales and (r) business development activities, and may be absolute in their terms or measured against or in relationship to other companies comparably, similarly or otherwise situated. The Committee may specify that such performance measures shall be adjusted to exclude any one or more of (i) extraordinary items, (ii) gains or losses on the dispositions of discontinued operations, (iii) the cumulative effects of changes in accounting principles, (iv) the writedown of any asset, and (v) charges for restructuring and rationalization programs. Such performance measures: (i) may vary by Participant and may be different for different Awards; (ii) may be particular to a Participant or the department, branch, line of business, subsidiary or other unit in which the Participant works and may cover such period as may be specified by the Committee; and (iii) shall be set by the Committee within the time period prescribed by, and shall otherwise comply with the requirements of, Section 162(m). Awards that are not intended to qualify as Performance-Based Compensation may be based on these or such other performance measures as the Board may determine.

(4) Adjustments. Notwithstanding any provision of the Plan, with respect to any Performance Award that is intended to qualify as Performance-Based Compensation, the Committee may adjust downwards, but not upwards, the cash or number of Shares payable pursuant to such Award, and the Committee may not waive the achievement of the applicable performance measures except in the case of the death or disability of the Participant or a change in control of the Company.

(5) Other. The Committee shall have the power to impose such other restrictions on Performance Awards as it may deem necessary or appropriate to ensure that such Awards satisfy all requirements for Performance-Based Compensation.

11. Miscellaneous

(a) No Right To Employment or Other Status. No person shall have any claim or right to be granted an Award, and the grant of an Award shall not be construed as giving a Participant the right to continued employment or any other relationship with the Company. The Company expressly reserves the right at any time to dismiss or otherwise terminate its relationship with a Participant free from any liability or claim under the Plan, except as expressly provided in the applicable Award.

(b) No Rights As Stockholder. Subject to the provisions of the applicable Award, no Participant or Designated Beneficiary shall have any rights as a stockholder with respect to any shares of Common Stock to be distributed with respect to an Award until becoming the record holder of such shares.

(c) Effective Date and Term of Plan. The Plan shall become effective on the date the Plan is approved by the Company's stockholders (the "Effective Date"). No Awards shall be

granted under the Plan after the expiration of 10 years from the Effective Date, but Awards previously granted may extend beyond that date.

(d) Amendment of Plan. The Board may amend, suspend or terminate the Plan or any portion thereof at any time provided that (i) to the extent required by Section 162(m), no Award granted to a Participant that is intended to comply with Section 162(m) after the date of such amendment shall become exercisable, realizable or vested, as applicable to such Award, unless and until such amendment shall have been approved by the Company's stockholders if required by Section 162(m) (including the vote required under Section 162(m)); (ii) no amendment that would require stockholder approval under the rules of the NASDAQ Stock Market ("NASDAQ") may be made effective unless and until such amendment shall have been approved by the Company's stockholders; and (iii) if the NASDAQ amends its corporate governance rules so that such rules no longer require stockholder approval of material amendments to equity compensation plans, then, from and after the effective date of such amendment to the NASDAQ rules, no amendment to the Plan (A) materially increasing the number of shares authorized under the Plan (other than pursuant to Section 4(c) or 9), (B) expanding the types of Awards that may be granted under the Plan, or (C) materially expanding the class of participants eligible to participate in the Plan shall be effective unless stockholder approval is obtained. In addition, if at any time the approval of the Company's stockholders is required as to any other modification or amendment under Section 422 of the Code or any successor provision with respect to Incentive Stock Options, the Board may not effect such modification or amendment without such approval. Unless otherwise specified in the amendment, any amendment to the Plan adopted in accordance with this Section 11(d) shall apply to, and be binding on the holders of, all Awards outstanding under the Plan at the time the amendment is adopted, provided the Board determines that such amendment does not materially and adversely affect the rights of Participants under the Plan. No Award shall be made that is conditioned upon stockholder approval of any amendment to the Plan.

(e) Provisions for Foreign Participants. The Board may modify Awards granted to Participants who are foreign nationals or employed outside the United States or establish subplans or procedures under the Plan to recognize differences in laws, rules, regulations or customs of such foreign jurisdictions with respect to tax, securities, currency, employee benefit or other matters.

(f) Compliance with Code Section 409A. No Award shall provide for deferral of compensation that does not comply with Section 409A of the Code, unless the Board, at the time of grant, specifically provides that the Award is not intended to comply with Section 409A of the Code. The Company shall have no liability to a Participant, or any other party, if an Award that is intended to be exempt from, or compliant with, Section 409A is not so exempt or compliant or for any action taken by the Board.

(g) Governing Law. The provisions of the Plan and all Awards made hereunder shall be governed by and interpreted in accordance with the laws of the State of Delaware, excluding choice-of-law principles of the law of such state that would require the application of the laws of a jurisdiction other than such state.

IDERA PHARMACEUTICALS, INC.

1995 EMPLOYEE STOCK PURCHASE PLAN

(As amended through March 15, 2011)

The purpose of this Plan is to provide eligible employees of Idera Pharmaceuticals, Inc. (the "Company") and certain of its subsidiaries with opportunities to purchase shares of the Company's Common Stock (the "Common Stock"). Five Hundred Thousand (500,000) shares of Common Stock in the aggregate have been approved for this purpose.

1. Administration. The Plan will be administered by the Company's Board of Directors (the "Board") or by a Committee appointed by the Board (the "Committee"). The Board or the Committee has authority to make rules and regulations for the administration of the Plan and its interpretation and decisions with regard thereto shall be final and conclusive.

2. Eligibility. Participation in the Plan will neither be permitted nor denied contrary to the requirements of Section 423 of the Internal Revenue Code of 1986, as amended (the "Code"), and regulations promulgated thereunder. All employees of the Company, including directors who are employees, and all employees of any subsidiary of the Company (as defined in Section 424(f) of the Code) designated by the Board or the Committee from time to time (a "Designated Subsidiary"), are eligible to participate in any one or more of the offerings of Options (as defined below) to purchase Common Stock under the Plan, provided that:

- (a) they are regularly employed by the Company or a Designated Subsidiary for more than 20 hours a week and for more than five months in a calendar year; and
- (b) they have been employed by the Company or a Designated Subsidiary for at least three months prior to enrolling in the Plan; and
- (c) they are employees of the Company or a Designated Subsidiary on the first day of the applicable Plan Period (as defined below).

No employee may be granted an option hereunder if such employee, immediately after the option is granted, owns 5% or more of the total combined voting power or value of the stock of the Company or any subsidiary. For purposes of the preceding sentence, the attribution rules of Section 424(d) of the Code shall apply in determining the stock ownership of an employee, and all stock which the employee has a contractual right to purchase shall be treated as stock owned by the employee.

3. Offerings. The Company will make one or more offerings ("Offerings") to employees to purchase Common Stock under this Plan. The Board or the Committee shall determine the commencement dates of each of the Offerings (the "Offering Commencement Dates"). Each Offering Commencement Date will begin a period (a "Plan Period") during which payroll deductions will be made and held for the purchase of Common Stock at the end of the Plan Period. The Board or the Committee shall choose a Plan Period of twelve (12) months or less for each of the Offerings and may, at its discretion, choose a different Plan Period for each Offering.

4. Participation. An employee eligible on the Offering Commencement Date of any Offering may participate in such Offering by completing and forwarding a payroll deduction authorization form to the Controller of the Company at least 14 days prior to the applicable Offering Commencement Date. The form will authorize a regular payroll deduction from the Compensation received by the employee during the Plan Period. Unless an employee files a new form or withdraws from the Plan, his deductions and purchases will continue at the same rate for future Offerings under the Plan as long as the Plan remains in effect. The term "Compensation" means the amount of money reportable on the employee's Federal Income Tax Withholding Statement, excluding overtime, shift premium, incentive or bonus awards, allowances and reimbursements for expenses such as relocation allowances for travel expenses, income or gains on the exercise of Company stock options or stock appreciation rights, and similar items, whether or not shown on the employee's Federal Income Tax Withholding Statement, but including, in the case of salespersons, sales commissions to the extent determined by the Board or the Committee.

5. Deductions.

(a) The Company will maintain payroll deduction accounts for all participating employees. With respect to any Offering made under this Plan, an employee may authorize a payroll deduction in any dollar amount up to a maximum of 10% of the Compensation he or she receives during the Plan Period or such shorter period during which deductions from payroll are made. Payroll deductions may be at the rate of 1%, 2%, 3%, 4%, 5%, 6%, 7%, 8%, 9% or 10% of Compensation.

(b) No employee may be granted an Option which permits his rights to purchase Common Stock under this Plan and any other stock purchase plan of the Company and its subsidiaries, to accrue at a rate which exceeds \$25,000 of the fair market value of such Common Stock (determined at the Offering Commencement Date of the Plan Period) for each calendar year in which the Option is outstanding at any time.

6. Deduction Changes. An employee may decrease or discontinue his payroll deduction once during any Plan Period by filing a new payroll deduction authorization form. However, an employee may not increase his payroll deduction during a Plan Period. If an employee elects to discontinue his payroll deductions during a Plan Period, but does not elect to withdraw his funds pursuant to Section 8 hereof, funds deducted prior to his election to discontinue will be applied to the purchase of Common Stock on the Exercise Date (as defined below).

7. Interest. Interest will not be paid on any employee payroll deduction accounts, except to the extent that the Board or its Committee, in its sole discretion, elects to credit such accounts with interest at such per annum rate as it may from time to time determine.

8. Withdrawal of Funds. An employee may on any one occasion during a Plan Period and for any reason withdraw all or part of the balance accumulated in the employee's payroll deduction account. Any such withdrawal must be effected prior to the close of business on the last day of the Plan Period. If the employee withdraws all of such balance, the employee shall thereby withdraw from participation in the Offering and may not begin participation again

during the remainder of the Plan Period. Any employee withdrawing all or part of such balance may participate in any subsequent Offering in accordance with terms and conditions established by the Board or the Committee, except that, unless otherwise permitted under Section 16 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and the rules promulgated thereunder, any employee who is also a director and/or officer of the Company within the meaning of Section 16 of the Exchange Act may not (a) withdraw less than all of the balance accumulated in such employee's payroll deduction account or (b) participate again for a period of at least six months as provided in Rule 16b-3(d)(2)(i) or any successor provision under the Exchange Act.

9. Purchase of Shares.

(a) On the Offering Commencement Date of each Plan Period, the Company will grant to each eligible employee who is then a participant in the Plan an option (an "Option") to purchase on the last business day of such Plan Period (the "Exercise Date"), at the Option Price hereinafter provided for, such number of whole shares of Common Stock of the Company reserved for the purposes of the Plan as does not exceed the number of shares determined by dividing 15% of such employee's annualized Compensation for the immediately prior six-month period by the price determined in accordance with the formula set forth in the following paragraph but using the closing price on the Offering Commencement Date of such Plan Period.

(b) The Option Price for each share purchased will be 85% of the closing price of the Common Stock on (i) the first business day of such Plan Period or (ii) the Exercise Date, whichever closing price shall be less. Such closing price shall be (A) the closing price of the Common Stock on any national securities exchange on which the Common Stock is listed, or (B) the closing price of the Common Stock on the Nasdaq National Market ("Nasdaq") or (C) the average of the closing bid and asked prices in the over-the-counter market, whichever is applicable, as published in The Wall Street Journal. If no sales of Common Stock were made on such a day, the price of the Common Stock for purposes of clauses (A) and (B) above shall be the reported price for the next preceding day on which sales were made.

(c) Each employee who continues to be a participant in the Plan on the Exercise Date shall be deemed to have exercised his Option at the Option Price on such date and shall be deemed to have purchased from the Company the number of full shares of Common Stock reserved for the purpose of the Plan that his accumulated payroll deductions on such date will pay for pursuant to the formula set forth above (but not in excess of the maximum number determined in the manner set forth above).

(d) Any balance remaining in an employee's payroll deduction account at the end of a Plan Period will be automatically refunded to the employee, except that any balance which is less than the purchase price of one share of Common Stock will be carried forward into the employee's payroll deduction account for the following Offering, unless the employee elects not to participate in the following Offering under the Plan, in which case the balance in the employee's account shall be refunded.

10. Issuance of Certificates. Certificates representing shares of Common Stock purchased under the Plan may be issued only in the name of the employee, in the name of the

employee and another person of legal age as joint tenants with rights of survivorship, or (in the Company's sole discretion) in the street name of a brokerage firm, bank or other nominee holder designated by the employee.

11. Rights on Retirement, Death or Termination of Employment. In the event of a participating employee's termination of employment prior to the last business day of a Plan Period (whether as a result of the employee's voluntary or involuntary termination, retirement, death or otherwise), no payroll deduction shall be taken from any pay due and owing to the employee and the balance in the employee's payroll deduction account shall be paid to the employee or, in the event of the employee's death, (a) to a beneficiary previously designated in a revocable notice signed by the employee (with any spousal consent required under state law) or (b) in the absence of such a designated beneficiary, to the executor or administrator of the employee's estate or (c) if no such executor or administrator has been appointed to the knowledge of the Company, to such other person(s) as the Company may, in its discretion, designate. If, prior to the last business day of the Plan Period, the Designated Subsidiary by which an employee is employed shall cease to be a subsidiary of the Company, or if the employee is transferred to a subsidiary of the Company that is not a Designated Subsidiary, the employee shall be deemed to have terminated employment for the purposes of this Plan.

12. Optionees Not Stockholders. Neither the granting of an Option to an employee nor the deductions from his pay shall constitute such employee a stockholder of the shares of Common Stock covered by an Option under this Plan until such shares have been purchased by and issued to him.

13. Rights Not Transferable. Rights under this Plan are not transferable by a participating employee other than by will or the laws of descent and distribution, and are exercisable during the employee's lifetime only by the employee.

14. Application of Funds. All funds received or held by the Company under this Plan may be combined with other corporate funds and may be used for any corporate purpose.

15. Adjustment in Case of Changes Affecting Common Stock. In the event of a subdivision of outstanding shares of Common Stock, or the payment of a dividend in Common Stock, the number of shares approved for this Plan, and the share limitation set forth in Section 9, shall be increased proportionately, and such other adjustment shall be made as may be deemed equitable by the Board or the Committee. In the event of any other change affecting the Common Stock, such adjustment shall be made as may be deemed equitable by the Board or the Committee to give proper effect to such event.

16. Merger.

(a) If the Company shall at any time merge or consolidate with another corporation and the holders of the capital stock of the Company immediately prior to such merger or consolidation continue to hold at least 80% by voting power of the capital stock of the surviving corporation ("Continuity of Control"), the holder of each Option then outstanding will thereafter be entitled to receive at the next Exercise Date upon the exercise of such Option for each share as to which such Option shall be exercised the securities or property which a holder of

one share of the Common Stock was entitled to upon and at the time of such merger, and the Board or the Committee shall take such steps in connection with such merger as the Board or the Committee shall deem necessary to assure that the provisions of Section 15 shall thereafter be applicable, as nearly as reasonably may be, in relation to the said securities or property as to which such holder of such Option might thereafter be entitled to receive thereunder.

(b) In the event of a merger or consolidation of the Company with or into another corporation which does not involve Continuity of Control, or of a sale of all or substantially all of the assets of the Company while unexercised Options remain outstanding under the Plan, (i) subject to the provisions of clauses (ii) and (iii), after the effective date of such transaction, each holder of an outstanding Option shall be entitled, upon exercise of such Option, to receive in lieu of shares of Common Stock, shares of such stock or other securities as the holders of shares of Common Stock received pursuant to the terms of such transaction; or (ii) all outstanding Options may be cancelled by the Board or the Committee as of a date prior to the effective date of any such transaction and all payroll deductions shall be paid out to the participating employees; or (iii) all outstanding Options may be cancelled by the Board or the Committee as of the effective date of any such transaction, provided that notice of such cancellation shall be given to each holder of an Option, and each holder of an Option shall have the right to exercise such Option in full based on payroll deductions then credited to his account as of a date determined by the Board or the Committee, which date shall not be less than ten (10) days preceding the effective date of such transaction.

17. Amendment of the Plan. The Board may at any time, and from time to time, amend this Plan in any respect, except that (a) if the approval of any such amendment by the stockholders of the Company is required by Section 423 of the Code or by Rule 16b-3 under the Exchange Act, such amendment shall not be effected without such approval, and (b) in no event may any amendment be made which would cause the Plan to fail to comply with Section 16 of the Exchange Act and the rules promulgated thereunder, as in effect from time to time, or Section 423 of the Code.

18. Insufficient Shares. In the event that the total number of shares of Common Stock specified in elections to be purchased under any Offering plus the number of shares purchased under previous Offerings under this Plan exceeds the maximum number of shares issuable under this Plan, the Board or the Committee will allot the shares then available on a pro rata basis.

19. Termination of the Plan. This Plan may be terminated at any time by the Board. Upon termination of this Plan all amounts in the payroll deduction accounts of participating employees shall be promptly refunded.

20. Governmental Regulations.

(a) The Company's obligation to sell and deliver Common Stock under this Plan is subject to listing on a national stock exchange or quotation on Nasdaq and the approval of all governmental authorities required in connection with the authorization, issuance or sale of such stock.

(b) The Plan shall be governed by the laws of the State of Delaware except to the extent that such law is preempted by federal law.

(c) The Plan is intended to comply with the provisions of Rule 16b-3 promulgated under the Exchange Act. Any provision inconsistent with such Rule shall to that extent be inoperative and shall not affect the validity of the Plan.

21. Issuance of Shares. Shares may be issued upon exercise of an Option from authorized but unissued Common Stock, from shares held in the treasury of the Company, or from any other proper source.

22. Notification upon Sale of Shares. Each employee agrees, by entering the Plan, to promptly give the Company notice of any disposition of shares purchased under the Plan where such disposition occurs within two years after the date of grant of the Option pursuant to which such shares were purchased.

23. Effective Date and Approval of Stockholders. The Plan shall take effect upon the closing of the Company's initial public offering of Common Stock pursuant to an effective registration statement under the Securities Act of 1933, as amended, subject to approval by the stockholders of the Company as required by Rule 16b-3 under the Exchange Act and by Section 423 of the Code, which approval must occur within twelve months of the adoption of the Plan by the Board.

YOUR VOTE IS IMPORTANT. PLEASE VOTE TODAY.

We encourage you to take advantage of internet or telephone voting.
Both are available 24 hours a day, 7 days a week.

Internet and telephone voting is available through 11:59 PM Eastern Time the day prior to the shareholder meeting date.

Idera Pharmaceuticals, Inc.

INTERNET
<http://www.proxyvoting.com/idra>
Use the Internet to vote your proxy. Have your proxy card in hand when you access the web site.

OR

TELEPHONE
1-866-540-5760
Use any touch-tone telephone to vote your proxy. Have your proxy card in hand when you call.

If you vote your proxy by Internet or by telephone, you do NOT need to mail back your proxy card.

To vote by mail, mark, sign and date your proxy card and return it in the enclosed postage-paid envelope.

Your Internet or telephone vote authorizes the named proxies to vote your shares in the same manner as if you marked, signed and returned your proxy card.

WO#
97486

▼ FOLD AND DETACH HERE ▼

THIS PROXY WHEN PROPERLY EXECUTED WILL BE VOTED IN THE MANNER DIRECTED BY THE UNDERSIGNED STOCKHOLDER(S). IF NO INDICATION IS MADE, THE PROXIES SHALL VOTE "FOR" THE DIRECTOR NOMINEES AND "FOR" PROPOSALS NUMBERED 2, 3, 4 AND 6 AND THE SELECTION, IN PROPOSAL NUMBERED 5, OF A ONE YEAR FREQUENCY FOR HOLDING EXECUTIVE COMPENSATION ADVISORY VOTES.

A VOTE FOR THE DIRECTOR NOMINEES, FOR PROPOSALS NUMBERED 2, 3, 4 AND 6 AND THE SELECTION, IN PROPOSAL NUMBERED 5, OF A ONE YEAR FREQUENCY FOR HOLDING EXECUTIVE COMPENSATION ADVISORY VOTES IS RECOMMENDED BY THE BOARD OF DIRECTORS.

Please mark your votes as indicated in this example

1. Election of Class I Directors

	FOR	WITHHELD	*EXCEPTIONS
Nominees: 01 Mr. C. Keith Hartley 02 Dr. Hans Mueller 03 Mr. William S. Reardon	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

(INSTRUCTIONS: To withhold authority to vote for any individual nominee, mark the "Exceptions" box and write that nominee(s)'s name in the space provided below.)

*Exceptions _____

2. Approval of amendment to our 2008 Stock Incentive Plan to:
(i) increase the number of shares of common stock authorized for issuance thereunder from 3,700,000 to 6,000,000 shares and (ii) adjust the amount that any award that is a full-value award will be counted against the number of shares available for issuance under the plan from 1.57 to 1.4 for each share of common stock subject to such full-value award.

	FOR	AGAINST	ABSTAIN
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3. Approval of amendment to our 1995 Employee Stock Purchase Plan to increase the number of shares of common stock authorized for issuance thereunder from 250,000 to 500,000 shares.

	FOR	AGAINST	ABSTAIN
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4. Approval, by non-binding vote, of executive compensation.

	FOR	AGAINST	ABSTAIN
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

1 Year 2 Years 3 Years Abstain

5. Approval, by non-binding vote, of the frequency (one year, two years or three years) of future executive compensation advisory votes.

	FOR	AGAINST	ABSTAIN
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6. Ratification of the selection of Ernst & Young LLP as our independent registered public accounting firm for the fiscal year ending December 31, 2011

	FOR	AGAINST	ABSTAIN
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

In their discretion, the proxies are authorized to vote upon such other business as may properly come before the Annual Meeting or any adjournment thereof.

PLEASE BE SURE TO SIGN AND DATE THIS PROXY

Mark Here for
Address Change
or Comments
SEE REVERSE

RESTRICTED AREA - SCAN LINE

Please sign this proxy exactly as your name appears hereon. Joint Owners should each sign personally. Trustees and other fiduciaries should indicate the capacity in which they sign. If a corporation or partnership, this signature should be that of an authorized officer who should state his or her title.

Signature _____ Signature _____ Date _____

▼ FOLD AND DETACH HERE ▼

IDERA PHARMACEUTICALS, INC.
PROXY SOLICITED BY THE BOARD OF DIRECTORS
Annual Meeting of Stockholders — June 14, 2011

Those signing on the reverse side, revoking all prior proxies, hereby appoint(s) Dr. Sudhir Agrawal and Mr. Louis J. Arcudi, III or each or any of them with full power of substitution, as proxies for those signing on the reverse side to act and vote all shares of stock of Idera Pharmaceuticals, Inc. which the undersigned would be entitled to vote if personally present at the 2011 Annual Meeting of Stockholders of Idera Pharmaceuticals, Inc. and at any adjournments thereof as indicated upon all matters referred to on the reverse side and described in the Proxy Statement for the Meeting, and, in their discretion, upon any other matters which may properly come before the Meeting. Attendance of the undersigned at the Meeting or at any adjournment thereof will not be deemed to revoke this proxy unless those signing on the reverse side shall revoke this proxy in writing.

Address Change/Comments (Mark the corresponding box on the reverse side)

**PLEASE VOTE, DATE AND SIGN ON OTHER SIDE AND
RETURN PROMPTLY IN ENCLOSED ENVELOPE.**

BNY MELLON SHAREOWNER SERVICES
P.O. BOX 3550
SOUTH HACKENSACK, NJ 07606-9250

RESTRICTED AREA - SCAN LINE

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97486

RESTRICTED AREA - SIGNATURE LINE